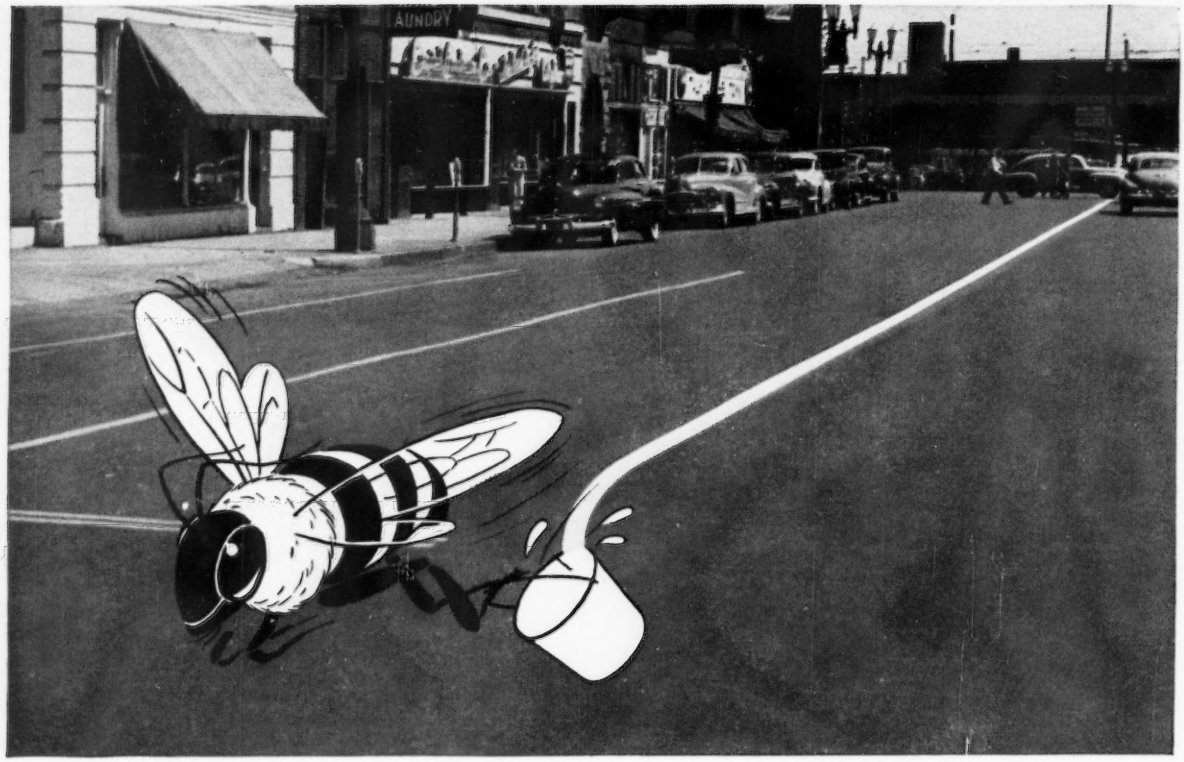

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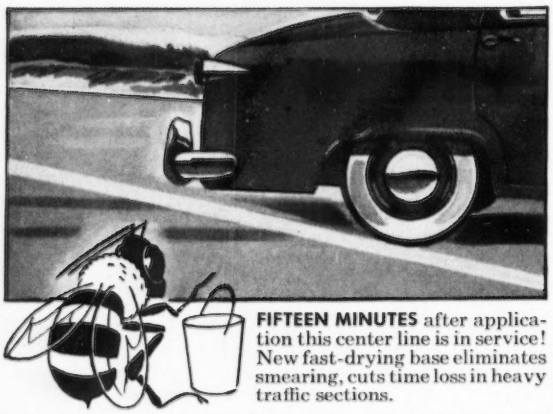

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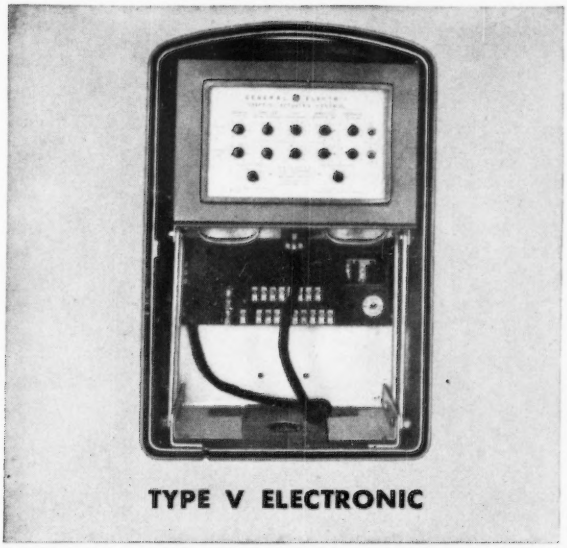
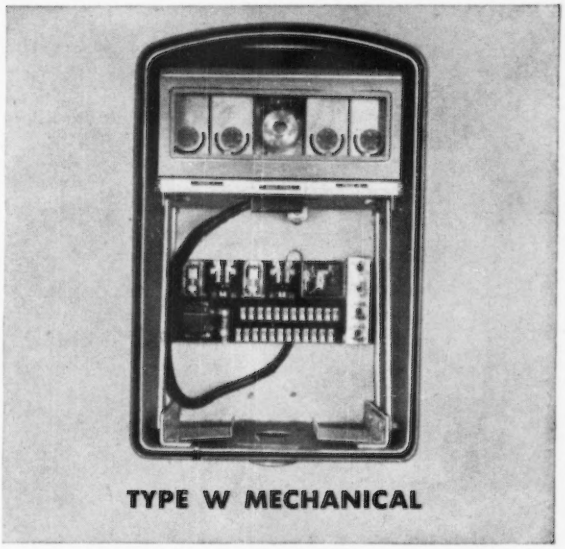


TYPE V ELECTRONIC



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G.E. Announces Two Types of Vehicle Actuated Controllers

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Simplicity of components, pioneered in the famous G-E Type F Controller, is extended to G.E.'s two types of vehicle actuated controllers. The electronic Type V, employing new, simplified electronic timing circuits, offers signal timing more advanced and efficient than previously available. Exclusive "service-minded" design features, both electrical and mechanical, make the Type V Controllers attractive to the novice as well as those experienced in the vehicle-actuated field.

The Type W Controller was developed upon popular demand for an electro-mechanical type of actuated controller. It uses primary basic parts such as the timing dial units and signal drum assembly, mechanically identical to those of the Type F Pre-timed Controller.

SIMPLE MAINTENANCE. Both the Type V and Type W use standard jack-mounted, unitized components, all readily accessible, assuring faster, easier, more simple and less costly maintenance. Both types are available in semi- and fully-actuated models.

MORE INFORMATION in greater detail is yours for the asking. See your nearest G-E Apparatus Sales Office or Traffic Control Distributor. Or write for Bulletin GEC-941. Address Section 453-59, General Electric Company, Schenectady 5, N. Y.

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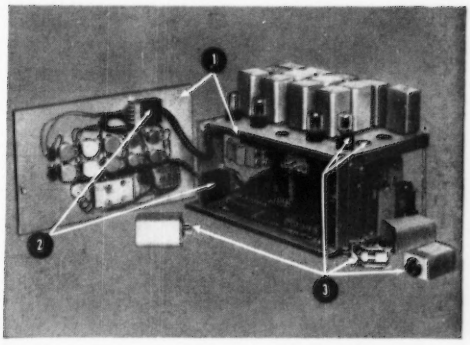

NO TOOLS are needed for servicing. Hinged construction (1) of front and top panels provides quick accessibility to all components. Plugs (2) permit quick removal of front and top panel units from timer base. All tubes and relays (3) are jack-mounted. Pantograph mounted table allows complete timer to swing out of cabinet without affecting operation.

SEE THE TRAFFIC DISPLAY COACH! With exhibits that enable you to create typical traffic problems, plus the latest in traffic control equipment, this mobile G-E exhibit is touring the country now. Don't miss it!

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Both MI-CO Parking Meters are designed to meet specific requirements—both have excellent records for dependable service, high earnings, and low maintenance. And when you compare MI-CO records—manual or twin—with those of other makes, we believe you will agree that MI-CO's are by all odds your best parking meter buy. We'll be glad to send facts and figures on many installations throughout this country and Canada.

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Traffic Engineering

OFFICIAL PUBLICATION OF THE INSTITUTE OF TRAFFIC ENGINEERS

VOLUME XXIII | APRIL, 1953 | NUMBER 7

COVER: This aerial view pictures a portion of the 427-mile long 500 million dollar Thruway from New York City to Buffalo scheduled for completion by 1955. This is part of the 55 miles completed to date and shows a typical four-span open pier separation structure. One hundred and ninety-nine miles are under construction and an additional 173 miles is scheduled to be put under contract this spring. A fine article on this magnificent traffic facility will appear in an early issue of Traffic Engineering, and those attending the Institute's Annual Meeting in Buffalo this coming September will be afforded an opportunity to inspect some of the westernmost Thruway sections.

Traffic Engineering is that phase of engineering which deals with the planning and geometric design of streets, highways, and abutting lands, and with traffic operation thereon, as their use is related to the safe, convenient, and economic transportation of persons and goods.

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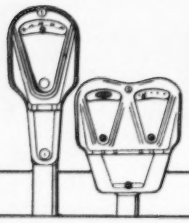
Published Monthly by the

Institute of Traffic Engineers

PUBLICATION office:
Interstate Printing Corp.
400 Watchung Avenue
Plainfield, New Jersey

EDITORIAL AND ADVERTISING offices:
Stratheona Hall
New Haven 11, Connecticut

Entered as second-class matter November 7, 1941, at the Post Office at Plainfield, New Jersey, under Act of March 3, 1879. ¶Single copies 40 cents, subscription price $3.50 per year in the United States; $4.75 per year to foreign countries. Other publications of the **Institute of Traffic Engineers** include Annual Proceedings, Traffic Engineering Handbook and Technical Bulletins. **¶The Institute is not responsible for any statements made or opinions expressed in its publications. Publication of advertising does not constitute Institute approval or endorsement of the products or services advertised.** Permission to reprint contents with customary credit line is given unless otherwise stated.



PARKING METER NEWS

FACTS EVERY CITY GOVERNMENT SHOULD KNOW

REPORTS SHOW DUAL METERS 99.18% EFFICIENT

Rating Based On 87% Of All Dual Installations

CANTON, OHIO—The latest of the regular performance reports received from Dual Parking Meter users upholds the high efficiency rating typical since Dual meters have been on the market. Based on replies from 87% of all cities, the efficiency rating for Dual meters for the entire United States is 99.18%.

Comments from cities who have Dual meters on their streets and off-street parking lots stress that they operate dependably and automatically in all weather conditions. Low maintenance cost, steady high revenue, the solution to parking problems, and the satisfying of parkers' needs are always emphasized in these reports.

Seth Thomas-Dual Movement Praised

The exclusive use of clock movements manufactured by the Seth Thomas Clock Company is constantly praised by Dual customers. The user advantages reported include appreciation of the heavy-duty mainspring which requires winding only once a week under normal use, the longer wear quality of the clock brass machine-cut gears, and the more accurate timing which adds to the city's revenue.

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The growing traffic problem is being solved by many cities by the on-the-spot time-and-coin conversion features of Dual Parking Meters. Meters are set for longer or shorter periods of time as traffic conditions change. More and more cities are reporting these Dual advantages help greatly in adding revenue and prove to be a big step toward solving the problem of changing traffic conditions.

THE DUAL PARKING METER COMPANY
A subsidiary of The Union Metal Manufacturing Company
Canton 2, Ohio

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2. **STAINLESS STEEL COIN MECHANISM...** Smoother running in all weather conditions.
3. **WEATHERPROOF HEAD...** With handy work-shelf door.
4. **SUPERIOR DESIGN...** Discourages cruising; time indicator visible only from sidewalk side.
5. **ON-THE-STREET TIME-AND-COIN CONVERSION...** To meet changing traffic conditions.
6. **EASY TO PATROL AND OPERATE...** Observation window shows slug or tampering at a glance. No levers to move.

Single head and Dubl Dual meters have the same efficient automatic mechanisms—one in the single head; two independent mechanisms in the Dubl Dual.

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TYPICAL DUAL INSTALLATIONS

CITY	YEAR INSTALLED
Birmingham, Alabama	1950
Mobile, Alabama	1947
El Dorado, Arkansas	1947
Forrest City, Arkansas	1951
Glendale, California	1948
Los Angeles, California	1949
San Diego, California	1941
Greeley, Colorado	1947
Wilmington, Delaware	1937
Thomasville, Georgia	1947
Idaho Falls, Idaho	1946
Clinton, Illinois	1951
Jacksonville, Illinois	1947
Springfield, Illinois	1949
Bloomington, Indiana	1946
Franklin, Indiana	1948
Marshalltown, Iowa	1946
Mason City, Iowa	1947
Newton, Iowa	1947
Red Oak, Iowa	1948
Leavenworth, Kansas	1948
Henderson, Kentucky	1946
Opelousas, Louisiana	1949
Thibodaux, Louisiana	1950
Bath, Maine	1950
Pocomoke City, Maryland	1946
Salisbury, Maryland	1938
Fitchburg, Massachusetts	1951
Lynn, Massachusetts	1948
Quincy, Massachusetts	1948
Lansing, Michigan	1941
Minneapolis, Minnesota	1948
St. Paul, Minnesota	1946
Tupelo, Mississippi	1948
Jefferson City, Missouri	1947
Springfield, Missouri	1941

CITY	YEAR INSTALLED
Bozeman, Montana	1948
Norfolk, Nebraska	1949
Plattsmouth, Nebraska	1951
Newport, New Hampshire	1950
Bloomfield, New Jersey	1942
Vineland, New Jersey	1950
Hempstead, New York	1950
Ithaca, New York	1941
Jamestown, New York	1940
Wilmington, North Carolina	1949
Winston-Salem, North Carolina	1947
Akron, Ohio	1940
Cincinnati, Ohio	1951
Dover, Ohio	1946
Wooster, Ohio	1948
Lawton, Oklahoma	1940
Shawnee, Oklahoma	1949
Portland, Oregon	1938
Philadelphia, Pennsylvania	1949
Williamsport, Pennsylvania	1941
York, Pennsylvania	1940
Providence, Rhode Island	1937
Georgetown, South Carolina	1947
Lancaster, South Carolina	1946
Memphis, Tennessee	1941
Trenton, Tennessee	1950
Dallas, Texas	1939
Fort Worth, Texas	1936
Galveston, Texas	1941
Lubbock, Texas	1936
Portsmouth, Virginia	1940
Richmond, Virginia	1939
Seattle, Washington	1942
Yakima, Washington	1950
Point Pleasant, West Virginia	1942
Appleton, Wisconsin	1949
Janesville, Wisconsin	1941

Frankly Speaking

JUST WHAT IS THE VALUE OF MEMBERSHIP in the Institute of Traffic Engineers? Is it the prestige that comes with being accepted into membership? Is it the valuable information contained in the several publications? Is it the social conviviality of section and annual meetings? Perhaps, but it should be much more.

There are other professional societies, one or more of which would probably accept all of our members or to which our members perhaps already belong. There are other scattered sources of the same or similar information contained in our publications. And one does not have to meet the requirements of membership to enjoy the social aspects of the organization. Why, then, does the Institute of Traffic Engineers exist and what does it propose to offer to the profession?

The potential of such an organization of professional men dedicated to careers in a common field is the organized strength to accomplish collectively that which is impossible by individual effort. The accomplishments of the Institute of Traffic Engineers and other professional societies is measured in the CONTRIBUTIONS of the membership to the dedicated purpose of the organization—contributions in concentrated effort, scientific study and research, and professional performance. The real worth of the organization is the surplus of the contributions of the membership as compared to the individual gain or betterment which each member expects or takes from the organization.

To what common objectives should the membership now be contributing? What projects in what problem areas should the officers and Board of Direction (and others in a position of leadership within the ITE) place before the Institute? These are thought provoking questions upon which each individual member could well be expected to have an opinion. And the expression of such opinion would be of immense value to the leadership.

The following objectives are ones to which the Institute of Traffic Engineers could well afford to devote considerable attention:

1. The proper positioning of the Traffic engineering *functions* in state, city, and county governmental organizations.
2. The professional registration of traffic engineers and the requirement of professional registration as a prerequisite of persons in responsible charge of traffic engineering functions above a specified professional level.
3. The adequate undergraduate training of civil engineers in courses introductory to traffic engineering and traffic engineering techniques.

The above is an expression of just one opinion. Perhaps many of the readers of this page will agree—still others will object. What do you think?

Regardless of your opinion related to specific problem areas, you must recognize that the collective potential of the Institute of Traffic Engineers can make headway toward the solution of such problems if we will but bend our efforts in the proper direction.

And, perhaps you will agree that the member who expects more from the Institute in individual gain than he is willing to contribute in terms of his professional talent, his time, and dedicated effort, is but a weak link in the chain of organization which binds us together.

Jos E Havemner

Director

Though Karparks have every worthwhile parking meter feature, it's the craftsmanship in their making that gets the approval of far-sighted officials. A long tradition of excellence in manufacturing timing mechanisms; advanced equipment; superb engineering; all these assure the precision, sturdiness and low maintenance costs that characterize a Karpark.

Modern methods make it better. After anodizing and spraying Karpark meter casings are carried on an endless conveyor through ultra-violet ovens where the color is baked on, to stay.

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At last, the supply of materials allows increased production of this economical, dependable "two car" parking meter. Write for data.

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Unimatic
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Karparks are manufactured by The Herschede Hall Clock Company *makers of America's finest clocks.*

Detroit Handles The Truck Problem

By Alger F. Malo (Mem., ITE)

Director of the Department of Streets and Traffic, Detroit, Michigan

Fig. 1

Alger F. Malo (seated right) discusses preferred truck routes with representatives of the trucking industry and the Board of Commerce. Shown conferring with Malo are: (standing left to right) W. I. Sexton, Suburban Motor Freight; Hugh Campbell, Detroit Board of Commerce; John J. Dobelek, Department of Streets and Traffic (Dobelek supervises the activities of the Truck Consulting Bureau). (seated left to right) John Graham, Transportation Service, Inc.; Thomas McGowan, Michigan Cartage and Storage Company, and Alger F. Malo, Department of Streets and Traffic.

In 1950 Mayor Albert E. Cobo, concerned with the magnitude of Detroit's complex traffic problem, organized a special Traffic Study Committee. This Committee was made up of representatives of the City, the National Automotive Safety Foundation, the Traffic Safety Association of Detroit, the Automobile Club and other agencies interested in the reduction of accidents and congestion in Detroit.

After an extensive study of the problem, this Committee recommended the formation of a Streets and Traffic Department designed to operate under a four-man commission appointed by the Mayor. The Department was to be charged with the responsibility for the safe and expeditious flow of traffic and goods through Detroit streets.

Presented to the people as a charter amendment in the November elections of 1951, it was overwhelmingly adopted. Many of the measures adopted by the Department to carry out its assigned responsibility have attracted national attention. Among these measures has been one aimed at simplifying the traffic problems created by trucking movements.

The appointees to the first Commission were men who had established themselves as outstanding figures in business or industry. Because of this background, the Commission

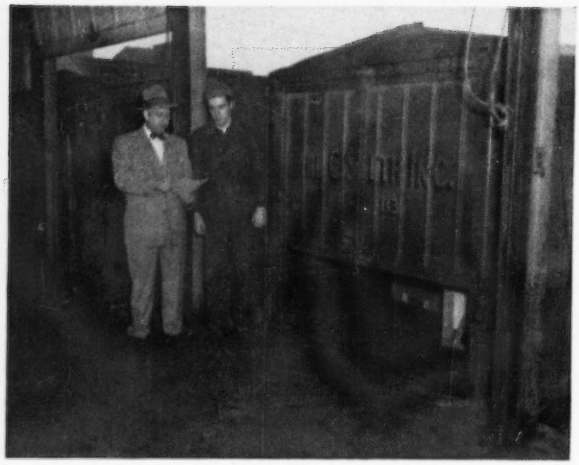


Fig. 2

Howard J. Conlin (left), Terminal Manager for the Earl C. Smith Lines, confers with Larry Jarrell on the affect of a detour which has just been announced in a Truck Consulting Bureau bulletin. The issuance of periodic bulletins containing information on detours, parking and turning restrictions, speed limits, and other matters is one of the outstanding features of the Bureau according to truckers using Detroit streets.

realized that trucks constitute a large portion of the traffic using our streets. Further they realized that because of their size and the nature of the services they performed trucks are a major factor contributing to almost all traffic problems. Cognizant of the fact that trucks generally travel at a slower rate of speed in urban areas, require more road space for movement and more curb space for storage, the Commission decided that any measure which would improve the trucking phase of the traffic problem would also improve the overall traffic picture. Again, because of their business and industrial backgrounds, the members of the Commission realized that in Detroit many trucks operate as part of a huge conveyor system transporting component parts to assembly plants. This in effect means that many of Detroit's streets are but an extension of the production lines of its factories. Because of the importance of mass production to Detroit's economy, it is essential that trucks engaged in this conveyorizing process operate on split-second schedules.

Recognizing these facts, the Streets and Traffic Commission of the City of Detroit decided in March, 1952, that any activity which could relieve some of the interference and congestion created by trucks and trucking would benefit all street users, and would result in more efficient use of the over-loaded street system. It was felt that this would be more easily, more efficiently, and more rapidly accomplished through a plan of organized cooperation between this Department of the city government and the trucking industry.

On this basis, a truck consulting bureau was established within the Department having the avowed objective of increasing "the efficiency of truck movements, pick-ups, and deliveries by the exchange of information, data, suggestions, and advice between truckers and the Bureau."

A plan of action was adopted which called for the classification of 65,400 commercial vehicles in Detroit by type and use; and meetings with truckers to acquaint them with our objectives, and to acquaint us with their problems, general and specific. Plans were made to provide the information, which truckers need to schedule their operations more effectively. A system was devised for keeping this information current.

Studies showed that in 1951 there were 836,846 passenger vehicles registered in Wayne County, Michigan. For the same year, there was 87,220 commercial vehicles registered. Therefore, slightly more than 9 per cent of the total motor vehicle registration in Wayne County was trucks. This figure does not include trailers. It is estimated that 75 per cent of the vehicles registered in Wayne County are domiciled in the City of Detroit, which means that there are approximately 65,400 commercial vehicles in Detroit. This estimate is based on the ratio of population in Detroit to the County population.

In 1950 commercial vehicles, representing approximately 10 per cent of registered vehicles, traveled slightly more than 14 per cent of total urban travel in this country. In 1948, the last year for which computations have been made, average vehicle miles per truck was slightly over 10,000 miles per year, while the average vehicle miles per passenger car was slightly more than 9,500 miles.

A quick survey through the advertising section of the telephone directory showed 354 common carriers and cartage companies with offices within the City Limits. This does not, of course, represent the total of trucking organizations within the City, but it does indicate the difficulties of attempting to contact individual organizations. It was also recognized that there were two major groups with which we would be concerned. One was that made up of organizations whose primary product is transportation. These include the common carriers, the contract carriers and the cartagemen. The second group was that made up of organizations whose primary product is something else, but who use trucking in the course of their primary function. These include the private carriers, who operate fleets of trucks for the distribution and delivery of their own goods. Therefore, the problem of contacting and working with these organizations was one which required that associations be the medium of contact.

Therefore, the aid of the Detroit Board of Commerce was sought. Splendid cooperation was received from Mr. Hugh Campbell, Manager of the Transportation Section of the Board of Commerce. Mr. Campbell arranged a meeting with representatives of several truck companies at which the idea and plans for the proposed Truck Consulting Bureau were presented. These men were enthusiastic about the proposed Bureau, indicated their belief that their operations would benefit, and that general traffic also would benefit.

Following this meeting, another was held with a smaller group of truck company and trucking association representatives. At this meeting the problem of distribution of information was discussed. A Truck Inventory and Information Questionnaire was developed. It was agreed that all distribution of information to or from the Bureau would be handled through the various associations, except for those individual activities involving trucks where no adequate association existed. This was worked out very well. For example, we have already received returned questionnaires from 132 companies, yet our bulletins are mailed to only 11 associations and to 13 non-affiliated companies.

Additional meetings were held with other associations, and non-affiliated companies, as well as with union representatives to explain our program, and to solicit their suggestions and cooperation.

Several definite activities have been commenced. The Bureau has prepared a set of two maps, 36″ by 54″ in size on which a basic network of preferred truck routes have been indicated. These streets were selected as preferred truck

routes on the basis of the physical characteristics of the streets themselves, such as width and pavement type and thickness; on the geographical location of the streets in relation to the areas to be served; and on traffic characteristics. The maps contain pertinent traffic information relating to these streets. One map indicates the "No Standing" restrictions on the preferred truck routes. (In Detroit a "No Standing" restriction is used for rush hour clearance, or for full time clearance when required by traffic needs, and prohibits the use of the curb for any purpose to commercial vehicles). Map 2 contains one-way, turn restriction, and speed limit information on the preferred truck routes, as well as indicating those streets from which trucks are prohibited.

The Bureau issues frequent bulletins providing information on changes in restrictions on truck routes, so that the maps may be kept up to date. Information on such things as street closings and detours is also disseminated by bulletin. Detroit's expressway construction program has created a large number of detours and street closings.

One of the proposed activities was aid and assistance in solution of specific problems of individual companies. The bureau has recommended changes in established routes of delivery of special equipment in some instances. These problems involved relatively frequent transportation of large pieces of equipment over a circuitous route to avoid low clearances, right angle turns, and railroad crossings. In one case a savings in distance of three miles, a reduction of two turning movements and three railroad crossings per trip, or twice that per round trip resulted. The use of the recommended routing will result in savings of time and labor costs, reduction in damage to equipment being transported and reduction in wear and tear on the truck equipment. These benefits accrued to the company. To general traffic, there were also benefits resulting from less interference and delay from these large and slow truck combinations.

In Detroit, as probably in many large cities, lack of adequate police manpower resulted in a slow reduction in enforcement of parking regulations to the point where the regulations were more honored in the breach. Consequently, there was a loss of street space when required by moving traffic, and a chronic shortage of curb parking spaces in the Central Business District. To remedy this situation, the Streets and Traffic Commission urged the formation within the Police Department of a "Parking Enforcement Bureau" whose sole assignment except in case of emergency, would be the continuous and vigorous enforcement of parking regulations. Detroit's system of "No Parking", "No Standing", "No Stopping" regulations for different degrees of strictness, and the fact that there had been a low level of enforcement for a long time resulted in much confusion and misunderstanding on the first day of the program. Truckers were being ticketed for violations which had long been permitted. In order to reduce the confusion, and to eliminate the misunderstanding, a bulletin to truckers was issued by the Bureau outlining the purposes of the Parking Enforcement Program, and defining and explaining the parking restrictions as they applied to truckers. This bulletin received wide distribution and resulted in a reduction in the number of complaints and inquiries received in this Department concerning the issuance of violation notices for practices which, though illegal, had long been permitted.

Fig. 3

It is now a common sight to see trucks parked at the curb on Detroit streets. Double parking and double standing of commercial vehicles have been reduced tremendously through the rigid enforcement of loading zone restrictions. This enforcement program was, in part, the result of requests relayed by the Truck Consulting Bureau from truckers to the Police Department calling for action against private vehicles parking in loading zones.

The Bureau has also taken part in discussions preliminary to the submission to the Common Council of an ordinance revising and including all weight, length, height, and width restrictions on commercial vehicles operating within the City of Detroit. These discussions included representatives of the Department of Public Works, the enforcing agency; the Corporation Counsel, the drafting agency; interested trucking associations and operators, and the Truck Consulting Bureau.

These are a few examples of the activities of the Bureau up to this time. Plans for future operation of the Bureau include more routing information, up-to-date information on overhead clearances of bridges and grade separations, time-speed information at various times on the preferred truck routes, increased coverage of companies using trucks for any part of their business, and a continuing interchange of information between truckers and the Bureau.

The Bureau has been in existence for about eight months, and has been in operation, providing the kinds of information and services previously mentioned, for about five months.

We believe the entire idea has a great deal of merit and promise. All the groups with which we have met have agreed and are cooperating fully. This kind of cooperation is essential to the success of such a venture. The policy of working through associations rather than with individuals has made it possible to undertake the variety of activities which are included within the scope of the Bureau's work. A third reason for the success of the Bureau has been the concept of voluntary cooperation and compliance by the truck-using companies to relieve, reduce, or eliminate truck-caused problems. This concept is an important one in the relationships between a regulatory agency and groups which might suffer from restrictive regulations which can be avoided through voluntary cooperation.

23rd Annual ITE Meeting Paper

No. 17, Presented at the Fourth Technical Session which was devoted to the subject, Traffic Engineering Techniques; as participation in the Panel Discussion, One-Way Streets, moderated by George W. Howie; 9:00 A.M., September 11, 1952

One-Way Grid System of Portland, Oregon

By Fred T. Fowler (Mem., ITE)

City Traffic Engineer, Portland, Oregon

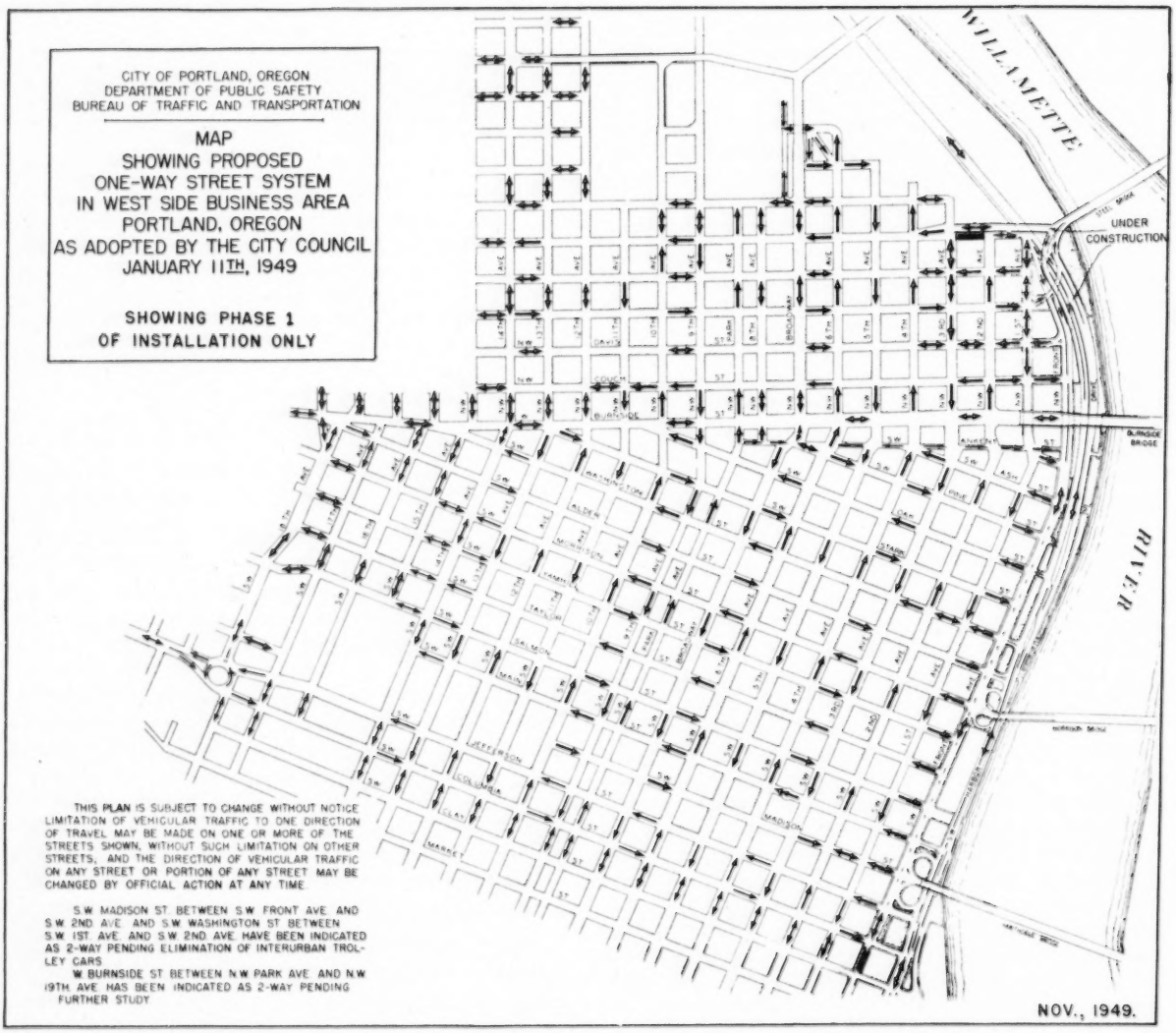

CITY OF PORTLAND, OREGON
DEPARTMENT OF PUBLIC SAFETY
BUREAU OF TRAFFIC AND TRANSPORTATION
MAP
SHOWING PROPOSED
ONE-WAY STREET SYSTEM
IN WEST SIDE BUSINESS AREA
PORTLAND, OREGON
AS ADOPTED BY THE CITY COUNCIL
JANUARY 11TH, 1949
SHOWING PHASE 1
OF INSTALLATION ONLY
THIS PLAN IS SUBJECT TO CHANGE WITHOUT NOTICE
LIMITATION OF VEHICULAR TRAFFIC TO ONE DIRECTION OF TRAVEL MAY BE MADE ON ONE OR MORE OF THE STREETS SHOWN, WITHOUT SUCH LIMITATION ON OTHER STREETS, AND THE DIRECTION OF VEHICULAR TRAFFIC ON ANY STREET OR PORTION OF ANY STREET MAY BE CHANGED BY OFFICIAL ACTION AT ANY TIME.
S.W. MADISON ST. BETWEEN S.W. FRONT AVE. AND S.W. 2ND AVE. AND S.W. WASHINGTON ST. BETWEEN S.W. 1ST. AVE. AND S.W. 2ND AVE. HAVE BEEN INDICATED AS 2-WAY PENDING ELIMINATION OF INTERURBAN TROLLEY CARS
W. BURNSIDE ST. BETWEEN N.W. PARK AVE. AND N.W. 19TH AVE. HAS BEEN INDICATED AS 2-WAY PENDING FURTHER STUDY
WILLAMETTE
RIVER
UNDER CONSTRUCTION
BURNSIDE BRIDGE
NOV., 1949.

Fig. 1

On March 1st, 1950, the City of Portland established a complete grid of one-way streets in the central west side business area, comprising 280 city blocks and over 21 miles of streets.

The map shown in Fig. 1 indicates the area covered and its relation to the Willamette River which separates the business area from the main residential area of the city.

Eight bridges carry an average weekday total of 230,665

ACCIDENTS BEFORE & AFTER ONE WAY COUPLET

PORTLAND ORE

	2 WAY	1 WAY	
		1ST YR.	5TH YR.
TRAFFIC VOLUME (AVE DAILY)	12734	16708	20842
TRAVEL TIME (MINUTES)	3.90	2.95	3.15
TOTAL ACCIDENTS	558	568	507
TOTAL INJURIES	69	39	37
MONETARY SAVING		$ 35,650	$ 53,200

Fig. 2

vehicles across the Willamette River. This has increased 18.5% from an average daily traffic of 194,562 in 1949, the year prior to the one-way installation.

The one-way area is bounded on the east by the Willamette River and Harbor Drive, the route of U. S. Highway 99, on the north by the railroad freight yards, on the west by S.W. 14th, a major arterial, and on the south by S.W. Jefferson and Columbia, a one-way couplet carrying U. S. Highway 26, the principal route to the Oregon coast. This couplet was established by the State Highway Department in November, 1946, three years and three months prior to the adoption of the one-way grid system. A report entitled "One Way Street Routings on Urban Highways in Oregon" dated April, 1951, gives the information shown in Fig. 2 comparing the one-way and two-way operation on this route. It is interesting to note that even with 63% increase in traffic volumes there has been a reduction in both accidents and travel time. The figures under "monetary saving" were computed on the basis of accident rate reduction only. Using $1.00 per hour as the value of time, the monetary value in annual time saving on this route would be an additional $92,590 the first year and $124,337 the fifth year.

The excellent results obtained on this preliminary installation were largely responsible for the quick acceptance of the complete grid system by the public.

The "Traffic Engineering Handbook" lists certain advantages of one-way streets in the chapter "One-Way Streets and Arterial Routes". It might be well to check the experience with Portland's one-way grid system against these points.

1. *Increase the capacity of the facility*

   Computations based on the "Highway Capacity Manual" give the possible capacity of our north-south streets which are 50 feet wide as 785 vehicles per hour under two-way operation and 945 under one-way operation. The 36-foot east-west streets had a possible hourly capacity of 520 under two-way operation which increased to 610 under one-way operation. Immediately following the adoption of the one-way grid, traffic volumes on the downtown streets showed a marked increase with volumes on some streets doubling. In every case the one-way street carried traffic volumes in excess of the previous two-way volumes and with appreciably greater freedom of movement.

2. *Increase the average speed of traffic*

   Speed and Delay studies under two-way operation showed an average speed of 7.9 mph in the downtown area and a peak hour speed of 5.8 mph. After being made one-way the average speeds almost doubled to 14.2 mph average and 11.6 mph peak hour. Over the course of the last two years with increasing volumes the speeds have dropped approximately 1 mph.

3. *Facilitate the operation of progressive signals*

   Portland's grid system of streets with 200 foot, square blocks made a progressive signal system impossible under two-way operation. The best traffic movement was obtained with simultaneous signal operation allowing traffic to move approximately three blocks per cycle.

   With one-way traffic control the signal operation utilizes a 50 second cycle with a 12½ second offset. This allows a 15 mph progression in all directions. Pedestrian walk-wait signals in conjunction with overhead vehicular signals in the direction of travel gives excellent control of pedestrian and vehicle movements and minimizes conflicts between the two.

   Owing to the high percentage of turning movements, as high as 34%, and the limited storage space in our short blocks there is a serious problem in the conflict between pedestrians and turning vehicles and the resultant congestion during heavy traffic periods. We propose to increase the cycle by 10 to 20 seconds during the peak periods giving this additional time to the vehicular traffic after the pedestrian "wait" has come on. This will allow for turning movements without pedestrian interference.

4. *Reducing most types of accidents*

   The change to one-way operation after the first few months of education in the use of the new system has resulted in a marked reduction in accidents. The comparison of accidents in 1949 with those in 1951 is shown in Fig. 3.

   As can be seen, there is a reduction in every type of accident. Angle collisions were reduced by two-thirds and turning collisions by one-half. It should be noted, however, that although the total number of accidents was greatly reduced, the number of injuries dropped only slightly, from 241 to 213. This is presumably due to the higher speed possible with one-way operation. The monetary saving in accident reduction amounts to $540,000 annually on the basis of National Safety Council figures for accident costs. This would pay for the entire cost of the one-way system in two months.

5. *Improve pedestrian movement*

   Pedestrian accident records in the one-way grid area as indicated in Fig. 3 show a reduction of 46%. Two of the crosswalks at a controlled intersection are

ACCIDENTS BEFORE & AFTER ONE WAY GRID

PORTLAND ORE

TYPE OF COLLISION	INTERSECTIONAL			NON-INTERSECTIONAL		
	1949	1951	% CHANGE	1949	1951	% CHANGE
ANGLE	140	50	-64	12	3	-75
REAR END	430	202	-53	293	169	-42
TURNING	1075	627	-42	95	42	-56
PARKING	122	112	-8	1381	821	-40
SIDE SWIPE MEETING	8	2	-75	34	7	-79
SIDE SWIPE OVERTAKING	198	105	-47	689	574	-17
HEAD ON	4	5	+25	18	2	-89
NON COLLISION, BACKING, FIXED OBJECT, MISC.	140	85	-39	167	89	-47
PEDESTRIAN	215	115	-46	22	11	-50
TOTALS	3453	1771	-51%	2711	1716	-37%

GRID PUT INTO OPERATION MAR. 1950

Fig. 3

(Continued on page 233)

23rd Annual ITE Meeting Paper

No. 18, Presented at the Fourth Technical Session which was devoted to the subject, Traffic Engineering Techniques; as participation in the Panel Discussion, One-Way Streets, moderated by George W. Howie; 9:00 A.M., September 11, 1952

The Businessman's Viewpoint on One-Way Streets

By William C. Dennis

Assistant Secretary-Treasurer, Retail Merchants Association, Detroit, Michigan

As Traffic Engineers, you are well aware of the fact that the merchant is highly resistant to sudden change. If a certain combination of factors has enabled him to show a little black ink at the end of the year—and this has held true over a number of years—any proposal to disturb the status quo is apt to distress him considerably. That is the general attitude with which a Traffic Engineer must contend when proposing any change.

Let me tell you a little bit about this peculiar person we call a merchant. He is a man who hires specialists to design his doors to swing more easily than the doors of his competitors—he will spend thousands of dollars to learn that customers are more likely to come in if they don't have to step up to get in—and spend more thousands on customer opinion surveys and mystic interpretations of those surveys in an effort to discover the forces which motivate the buying public. He is apt to spend many hours, weeks or months in the consideration of how one minor item may affect the customer, and consequently his business.

This is the man who, in Detroit, stood by quietly and allowed the city to stop all traffic flow from one direction to his store. In fact, he has taken this attitude since 1939 when our first pair of one-way streets was put into operation until now, we have over 60 miles of such streets. It is just not the nature of the beast to accept such far-reaching changes without some compelling reasons.

It may be trite to say this but, it is a truism—Detroit grew up with the automobile. For years we have lived in an atmosphere permeated with its production and use. We have talked about them and thought about them. Our merchants are painfully aware that mobile customers go where they please and that they can't do business with a customer who can't get to the counter. They knew that on many streets, mobility was at a dangerously low ebb and that something had to be done.

Downtown retailers had two alternatives—decentralization or finding ways to get more people around town more quickly. Decentralization costs money and so, the way was prepared for the Traffic Engineer to sell the proposition of increasing the capacity of existing facilities by changing certain streets to one-way operation. You all know what the results were. The increased traffic volume has meant greater sales and consequently, increased property values in the downtown area.

But what about the merchant located on the street which was changed to one-way operation? In Detroit this merchant was not too well organized, and to the extent that he was, Detroit traffic officials did a very effective job in selling him a bill of goods—at least to the extent that he was willing to go along for a trial period.

In no case was anyone forced out of business and in the majority of instances, the merchant found that he benefited from the increase in traffic capacity. Nor could we find any evidence of declining values of business property because of the change.

There is another reason the Retailer submitted so meekly to these changes—his customers liked it, and he knew it. Retailers are extremely conscious of their public relations and this development virtually eliminated the possibility of their organizing to oppose a one-way street system.

These are some of the factors which make one-way streets saleable to the merchant. Plans must be technically sound and the proper selling approaches must be made to the merchant, through his Association where possible, and—of great importance—to the public. (They can help you influence the merchants.) Probably never will you convince the Retailer to the point where he will promote such a system, but you can prepare the way so that he will submit to a trial period—then he is hooked! His customers will see that he doesn't cry too loudly even if he is inclined to do so.

Sell your newspapers on the idea and enlist their aid and support. Tell everyone who will listen what you are doing; why you are doing it and how it will help. We are all inclined to be critical of something we don't understand.

ITE CALENDAR

24th ANNUAL MEETING
Hotel Statler
Buffalo, New York
September 27 - October 1, 1953

25th ANNUAL MEETING
Kansas City, Missouri
September, 1954

23rd Annual ITE Meeting Paper

No. 19, Presented at the Fourth Technical Session which was devoted to the subject, Traffic Engineering Techniques; as participation in the Panel Discussion, One-Way Streets, moderated by George W. Howie; 9:00 A.M., September 11, 1952

One-Way Streets Are Not a Cure-all

By Ralph F. Gross

City Transit and Traffic Engineer, Chicago, Illinois

JUST PRIOR TO THIS TECHNICAL SESSION the participants met to organize our thoughts. In view of the other gentlemen agreeing to lend their blessings to the one-way street system, I volunteered to take exception to this thinking to create interest and enliven discussion. Therefore, I offer the following points with a sincerity of conviction and in the interest of traffic engineering improvement.

1. I do not believe that the one-way street system is a cure-all for the solution of moving traffic in a highly concentrated and condensed area. Until all possible studies, measures, regulations and their enforcement have been exhausted with the two-way system, only then should one resort to the patent medicine formula of one-way streets now so prevalent among the profession. In my opinion, this general application of one-way streets in most cases demonstrates a lack of study, proper analysis and unwillingness of officials to exhaust every other means before abdicating to the one-way street system.

2. My own personal experience and observation have led me to conclude that proper parking regulations, delivery regulation, and standing regulation of vehicles in a concentrated area are not only helpful but effective.

3. Unless the persons charged with the responsibility of moving traffic through a congested area are serious in providing ways and means for the free movement of passenger, commercial and transportation mediums, a one-way street program is questionable.

4. If one wishes to exchange the lack of responsibility of initiating a rigid no-parking and standing program by adopting a one-way street system and thereby condoning parking and all other violations that could be helpful in giving free movement of vehicles in a congested area, then I am opposed to the introduction and line of least resistance in adopting this one-way, supposedly cure-all patent medicine system of traffic engineering.

ONE-WAY GRID SYSTEM OF PORTLAND, OREGON

(Continued from page 231)

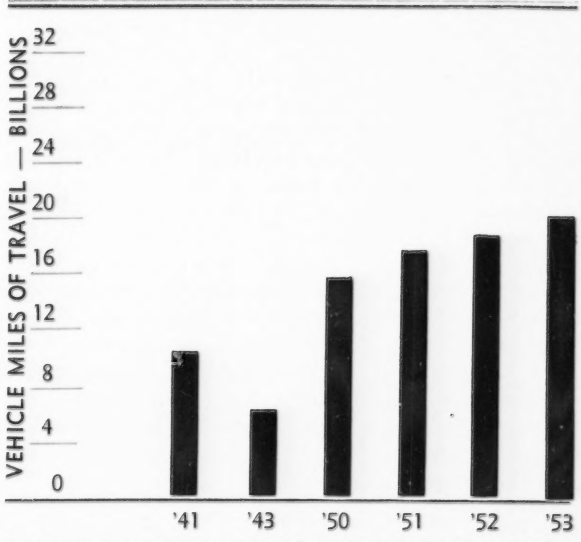
completely free of vehicles during the walk period and the use of special pedestrian signals gives ample clearance time for pedestrians before vehicles are allowed to move. The principal remaining cause for pedestrian accidents is in turning movements which are apt to be made too fast through occupied crosswalks. The only solution lies in separation of the two movements through elevation of sidewalks or by special three-phase signal control.

6. *Reduction in amount of Police supervision*

Although it is true that a one-way street is virtually self-enforcing I cannot agree that the amount of police enforcement should be reduced. The control of turning movements and supervision over signal observance is necessary if the increased capacity of the one-way street is to be obtained. Although police supervision in Portland's one-way system has been reduced, the adverse effects are noticeable.

In summation, the introduction of a one-way grid in Portland reduced accidents by almost 50% and increased average speed to almost double its previous value even with higher traffic volumes. This was accomplished by an expenditure of $73,000.00, a real bargain in traffic control.

Traffic Trends



TRAVEL ON RURAL ROADS FOR FIRST MONTH OF 1941, 1943, 1950, 1951, 1952 and 1953.

Based on Bureau of Public Roads Data

City Plan Commission Adopts ITE Warrants

By The Editorial Staff

The City Plan Commission of Waukesha, Wisconsin, charged with the preparation of a "Comprehensive Plan Report" for that city, late last year approved an Interim Report dealing with "Circulation—Traffic Flow and Control" and a separate section, "Warrants for Traffic Control".

The Commission's Secretary is Richard E. Arms, Community Planner. In preparing the Interim Reports, Mr. Arms made good use of the Institute's TRAFFIC ENGINEERING HANDBOOK by drawing freely on it as authoritative reference material, for which he had previously requested and received copyright permission.

This magazine was so impressed with the manner in which Mr. Arms developed the report on this most important phase that we requested permission to reprint the introduction, in the belief this could serve as a valuable guide in establishing operations policy statements, especially in those cities that are only now creating traffic engineering departments.

Following the introduction reprinted here, the first interim report listed Warrants for: Arterial Routes; One-Way Streets; Divisional Islands; Channelizing Islands; Rotary Islands; Grade Separations; Pedestrian Barriers; Pedestrian Refuge Islands; Sidewalk and Crosswalk Widths. The second section lists Traffic Control Warrants for: Fixed-Time Signals; Traffic Actuated Signals; Pedestrian Signals; Two-Way Stop Signs; Four-Way Stop Signs; and School Crossing Guards.

Comprehensive Plan Report

". . . Traffic engineers have studied many thousands of traffic problems and have accumulated extensive data relating to these problems. The profession has reached conclusions concerning what volumes of traffic, what number of accidents, what physical conditions 'warrant', or justify traffic control . . ."

INTERIM REPORT—CIRCULATION, TRAFFIC FLOW AND CONTROL

Traffic Control Warrants

Automotive congestion is, perhaps the most severe single planning problem facing American cities today. Street design and vehicular control devices have been widely used and abused in an attempt to clear this congestion. Recently a member of the council requested traffic counts of a particular intersection with a view toward reducing what appeared to be marked congestion at this intersection. This is the proper approach to answering the traffic question. Yet, by and large, typical citizen comment and opinion is expressed without the necessary basic information:

"Give the pedestrian a chance!" "Watch how they speed through this intersection." "How about another stop sign here?" "There ought to be a stop and go light at this intersection!"

These observations and opinions are sincere. And they can be heard at most busy intersections, as well as along busy streets. But comments of this nature seldom reflect the facts, are not accurate, nor are they scientific without considered analysis of traffic accidents, hourly and daily traffic volume as related to other intersections, the amount of pedestrian traffic and all other available information relating to traffic in the location. These factors properly weighed *warrant* certain traffic control designs and devices. Mere opinion no longer can be considered good enough.

Professionally Established Warrants

Traffic engineers have studied many thousands of traffic problems and have accumulated extensive data relating to these problems. The profession has reached conclusions concerning what volumes of traffic, what number of accidents, what physical conditions "warrant", or justify traffic control, such as one-way streets, pedestrian islands, two-way stop signs, four-way stops, fixed interval traffic signals (stop and go lights), traffic actuated signals, and other types of control designs and devices.

This report lists "warrants" for traffic controls as the traffic engineering profession has approved them in the Institute of Traffic Engineers' *Traffic Engineering Handbook*. The source of their standards are noted in the text of this report.

Adoption of these standards by the Plan Commission will form a basis for traffic control recommendations, will allow officials to answer questions about existing, contemplated, and citizen proposed traffic regulatory devices.

The answer to the citizens' comment, "We need a traffic light at this intersection is no longer, "Well, I don't know." It may now be, "The Commission will recommend a traffic light *if* the traffic volume is great enough, the pedestrian traffic is great enough, etc."

Reduced to a science, insofar as possible, traffic standards help take the uneducated opinion out of street and highway planning.

(Continued on page 237)

23rd Annual ITE Meeting Paper

No. 20, Presented at the First Technical Session which was devoted to the subject, The Economics of Traffic Planning; as participation in the Panel Discussion, Financing Street Transportation Plans, moderated by D. Grant Mickle; 3:30 P.M., September 9, 1952

Financial Problems Connected With Street Improvements

By M. L. Davis
Director, Department of Public Service, Akron, Ohio

IN HIS INVITATION for us to address this meeting your Chairman made some mention of the success that Akron has had in solving problems connected with the financing of street improvement and parking ground projects. Our first reaction to such a statement was that if anyone considers Akron as having any claim for success in this field the rest of the country must be in a deplorable condition. Further reading of the invitation disclosed a request to participate in a panel discussion of problems and solutions regarding the financing of various improvements. Although admitting great weakness in the matter of solution we are thoroughly familiar with the problem. Possibly a brief resume of conditions in our City will stimulate discussion to a point where we can learn more from you than you will from us.

Akron is an industrial city of some 275,000 in a metropolitan area of well over 300,000. Our corporate limits enclose an area of just over 54 square miles and 771 miles of streets of which 357 miles or 46% are unpaved. Automobile registration per capita is unusually high. These factors of low pavement mileage and large numbers of cars contribute toward serious street improvement and traffic problems. The situation is further complicated by the fact that a major portion of the large trucking companies have their home terminals in our city.

From 1910 to 1920 the city more than doubled in area and from 1920 to 1940 it again more than doubled. With such a rapid growth it was impossible for the financing and constructing of needed utilities such as sewers, water lines and pavements to keep pace with the increase in area. As of today we are far behind in providing urgently needed public improvements and too much of our current tax revenue is being used to pay off bonds issued for improvements built years ago. This means that there is no money available from real estate taxes for financing public improvements, in fact we do not get sufficient funds to maintain adequate fire and police protection. Consequently money for street improvements must come from sources other than general taxation. Such sources might include bond issues, special assessments, special levies, gasoline and license taxes, and private financing.

Many times during the past several years various improvement bond issues have been submitted to the voters who have generally supported school bonds and rejected all others. No doubt the voters are using good judgment in rejecting bond issues because they do put an undue burden on the property owner and when such issues run for long terms the interest charges become excessive. A large part of our current financial difficulty is due to refunding of bonds issued years ago, in short we are still paying for dead horses.

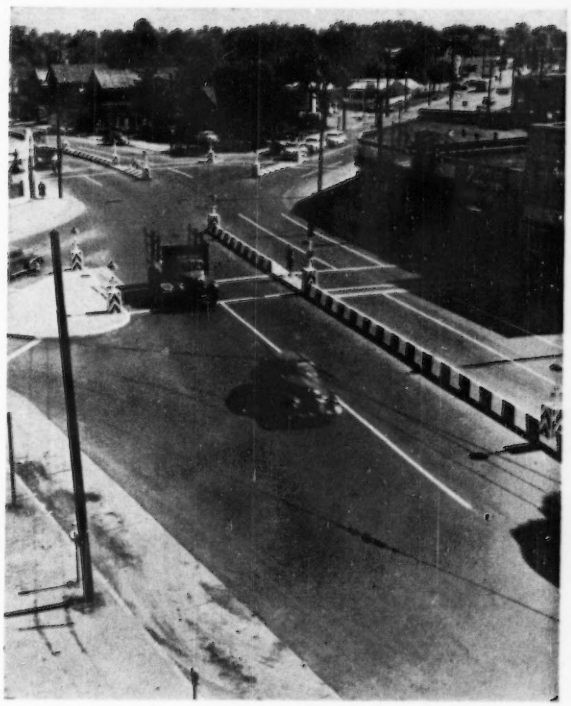


Fig. 1
Channelization on North Main Street at Cuyahoga Falls Avenue. The City's share of the North Main Street widening cost was taken from Highway Levy Funds.

Improvements on residential streets could be financed by special assessments against the adjacent property were it not for the fact that the City is required to pay for the cost of paving the intersections plus at least 2% of the property portion. For many years the City used money from general construction bond issues to pay the City's share but, as just

mentioned, the voters will no longer approve such issues. Consequently there are very few projects that can be financed by special assessments.

Although Ohio law permits the use of part of the gasoline or license taxes for new improvements we cannot finance any very large projects in this manner because the City's share of these taxes is not sufficient to maintain existing pavements and bridges.

Several attempts have been made to pass a local income tax ordinance. Although our City Council has authority to levy such a tax without a vote of the people they lack the intestinal fortitude to do so. With two or three exceptions the individual councilmen are more interested in getting re-elected than they are in solving the City's financial problems and are firmly convinced that it would be political suicide to pass an income tax. While many of our citizens believe that an income tax is the fairest way of financing municipal operations there is little likelihood that such a measure will be passed in the near future.

This leaves only the special levy and private financing methods both of which are now being used.

For the last ten years the local real estate interests have been unusually active in promoting housing projects. A few of these developments have been on streets partially or wholly improved but the majority of them have been on unopened streets or in new allotments. In some cases the housing developer has provided fairly complete improvements including grading, sewers, water lines, sidewalks, curbing and paving; in other instances the developer has merely graded and cindered the roadway and constructed sidewalks. We are now in the process of revising our Planning Commission regulations so that, on future projects, the developer will have to provide better and more complete improvements. Thus it will be possible to obtain reasonable satisfactory improvements with only minor expense to the City. Had such a policy been rigidly carried on during the past 25 years some of the City's present financial difficulty could have been avoided and our huge mileage of unpaved streets would have been much smaller. Under our present conditions about the only residential street improvement work in progress is that being financed by private parties.

So far as improvements on major traffic arteries are concerned the picture is a little brighter. About five years ago we were successful in obtaining the voters approval of a 2 mill levy for financing the City's share of a freeway project, for widening and resurfacing main thoroughfares, for constructing bridges and for other highway facilities. Recently this levy was renewed for a second five year period.

With these funds we have already constructed some badly needed street widening and resurfacing projects; one new bridge has been completed and another is under construction. However, the glamour project of them all is the freeway now being constructed under the joint sponsorship of the City of Akron, the State of Ohio, and the Federal Government.

When the levy was first presented to the voters it was everyone's expectation that the City's share of the freeway project would be 25 per cent which meant that we would get three dollars of State and Federal funds for every dollar that Akron put up. While this proposition was sufficient to gain the public's approval we got a better deal after work started. At the present, the City is paying 25% of the right-of-way costs but only 15% of the construction costs.

Except for considerable delay in obtaining steel for a major bridge, construction is well advanced on the first section of our freeway and we hope to have the second section under contract by the end of the year. The entire freeway system is many years and several millions of dollars away from final completion and we are still faced with the problem of getting approval for a further extension of the current 2 mill levy or of otherwise raising funds for future construction.

For many years public officials have been primarily concerned with providing adequate roadways for moving vehicles. Recently a new problem has arisen, namely; what is to be done with the vehicle after it reaches its destination. In other words, where can it be parked? Although meters are valuable aids in providing temporary parking places they cannot be a complete solution to the problem because they do not take care of the vehicle that must be parked for several hours and in most cities there isn't sufficient street area in congested business districts to install the number of meters needed to accommodate all who wish to park.

Therefore it is necessary to provide parking places for those vehicles which cannot be accommodated on the streets. Off-street parking facilities are of many types ranging from a small lot to an elaborate building. The problem of providing for parking is not new since some facilities have existed for many years. During recent years, however, the demand for off-street parking area has increased with the increase in total number of vehicles. In our locality, while some of the larger department stores have provided either parking grounds or parking decks and several vacant lots have become parking grounds, there still exists a large demand for more parking space. Since similar situations are common to most cities our State Assembly has passed legislation making it possible for Ohio cities to use their power of eminent domain to acquire land for the construction of parking facilities. This is fine for those cities that can finance such construction; we can't and are not sure that we should invest money in the construction of parking garages even if we could. We all know that the construction of multiple deck parking structures would involve the investment of considerable capital and it would be several years before we would get our money back. In fact there is reason to doubt that we would get our money back due to a trend that is developing in this locality. I refer to the recent construction of huge shopping centers in the outlying areas. Within the past couple of years three such projects have been opened in the southeast, south and northwest sections of the city and there is under construction one on the west side and another on the north side with still another planned for the northeast section. Each of these centers is provided with a huge parking ground and the public certainly patronize them in large numbers. These centers include food markets, ten-cent stores, drug stores, appliance shops, bakeries, banking facilities, etc. This mass movement of shoppers from the central areas of the city to the outskirts will most certainly have a decided effect upon business and parking conditions in the downtown area. No doubt one of the reasons why people seem to prefer trading at these outlying shopping centers is the lack of parking space in the downtown section but we doubt whether or not this trend could be reversed or even stopped by providing more parking space downtown. Conse-

quently we predict that the City of Akron will not soon invest any large sum of money in off-street parking facilities.

Our present financial status of extreme scarcity of general funds for routine municipal operations and reasonably adequate funds for major street and freeway construction is inconsistent and difficult to explain to our public. The general fund situation will probably be somewhat improved next year due to an increase in property valuations which will soon go into effect. Although this will be of immense help in financing operations such as parks, recreation, police and fire protection, garbage collections, street lighting, etc., there will not be a large enough increase in revenue to provide for the construction of other vital improvements such as storm sewers. Since we cannot pass a sewer bond issue or enact an income tax ordinance the only apparent possibility of financing a storm sewer construction program seems to be to pass a levy for sewers similar to that now in effect for highways. However, such a levy will not get approval at this time because the property owners are all worried about the amount that their taxes will be raised as a result of the coming revaluation.

Frankly, I don't know how we are going to solve our future financial problems, only time will tell.

Now I realize that all that I have said was probably of no help to you in solving your problems but maybe it has given you some encouragement by showing you how much better off you are as compared to our city.

CITY COMMISSION ADOPTS ITE WARRANTS

(Continued from page 234)

Yet standards do not, in themselves, justify traffic control design and devices. Each case must be given careful individual consideration, yet these standards provide a basis for the analysis of information. Further, it might be noted here that these standards, by and large, state minimum conditions which should exist before street design, signs or signals are undertaken, and not all streets having these conditions require traffic control. Too often, the emphasis is on restricting traffic rather than encouraging it to flow freely. Too many restrictions is often worse than too few.

Yet, of course, the aim is for just exactly what is required. No more, no less.

PLEASE MENTION

TRAFFIC ENGINEERING

When Writing to Advertiser

This New Miro-Flex Sign
MAKES 'EM STOP!
DAY OR NIGHT
This new 24" Miro-Flex STOP sign presents a clear command, day or night. Embossed center panel is black enamel finished, has wide-angle reflectorized letters. Miro-Flex signs meet U.S. Public Road Administration standards, are embossed on zinc-coated, bonderized steel, finished in magnetically sprayed baked enamel for long life, and are available plain or reflectorized. Write for catalog on complete sign line.
STOP
STOP
ACTUAL NIGHT PHOTOGRAPH
THE MIRO-FLEX CO., INC.
1824 EAST SECOND STREET
WICHITA, KANSAS

Open Discussion

By Fred W. Hurd (Mem., ITE)
Associate Professor,
Yale Bureau of Highway Traffic,
New Haven, Connecticut.

THE RATE OF CHANGE in transverse placement at which drivers may safely and comfortably enter a deceleration lane or avoid the end of a divisional island is of concern to traffic engineers.

It is evident that the rate of change in transverse placement will vary with the time available to make the transition. For sudden, forced or emergency situations, the rate will be much higher than when drivers are free to select more "natural" changes in path.

When discussing this, it was the opinion of the staff of the Bureau of Highway Traffic that the rate of change in transverse placement adopted by drivers as they overtake and pass a slightly slower vehicle, on a divided highway might be indicative of normal driver practices, when they are not affected by fixed or forced conditions. To investigate this traffic phenomenon the students of the Bureau conducted an overtaking and passing study on the Merritt Parkway. Traffic signs and enforcement on this facility have encouraged drivers to use the lane next to the median only when passing—particularly, during periods of light traffic volumes. This route is a divided four-lane parkway designed with complete control of access and its use is limited to passenger cars. The test sections were selected to avoid cross-section, sight distance and alignment which would affect the freedom with which overtaking of passing maneuvers were made.

A novel method was employed in making the study. Lane lines on the longitudinal construction joint in the center of each directional pavement had recently been painted by the Connecticut State Highway Department. In Connecticut, such lane lines are dashed lines placed by a pavement striping machine which mechanically applies a single paint line 15 feet long with 25 foot gaps between each paint line segment. The paint line intervals proved to be fairly accurate indicators of distance because field measurements found that the distance between the beginning of each line did not vary from 40 feet more than six inches. The driver of a test car drove in the right-hand lane of the parkway at a constant speed of about 40 m.p.h. Only free passing vehicles were observed. One observer watched the approach of such vehicles to the rear in the same lane as the test car. When the *left* front wheel of the passing vehicle crossed the lane line, this observer started his stop watch and stopped it when the *right* front wheel of the passing vehicle crossed the lane line. With these time measurements the rate of change of transverse placement was computed for all vehicles observed by using a standard vehicle track width of 4.9 feet.

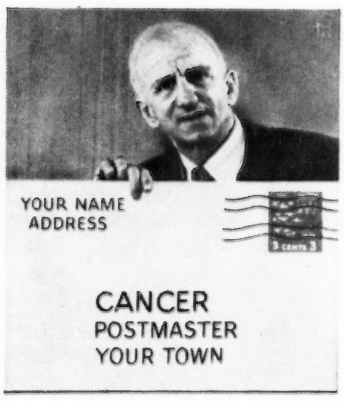
Another observer timed the passing vehicle over a section of 10 paint line segments to determine its average speed while passing. The time factors for passing speed and rate of change in placement were recorded for each vehicle observed. Four cars operating on different sections of the parkway making observations over a period of three hours collected a total of 690 samples with passing speeds ranging from 45 m.p.h. to 65 m.p.h. The results of the summary by speed of passing vehicles are summarized in the accompanying table. It is estimated that the measured speeds and rate of change in placement are accurate to within 10%.

It is interesting to note in the summary that the time rate of change in placement remained almost constant for the speed range observed. Study of the data indicated that a vast majority of the samples for all speeds fell within the range of 0.30 to 0.65 seconds per foot of transverse shift.

RATE OF CHANGE OF TRANSVERSE PLACEMENT ADOPTED BY FREE MOVING DRIVERS TURNING OUT TO PASS A TEST CAR TRAVELING AT 40 M.P.H. ON A FOUR-LANE HIGHWAY

Speed of Passing Vehicle (m.p.h.)	45 to 50	50 to 55	55 to 60	60 to 65
Transverse Displacement (Seconds/Foot of Lateral Shift)				
Median	0.45	0.44	0.50	0.50
Mode	0.43	0.43	0.48	0.43
Mean	0.53	0.50	0.53	0.54
No. of Observations	271	235	137	47

The results seem to provide strong evidence to the effect that the time rate of transverse displacement voluntarily adopted by drivers remains constant at all speeds while the longitudinal distance required to transition a change in placement increases linearly with the increased speed. At a rate of 0.50 seconds per foot of transverse shift, the transition distance required to move 12 feet laterally would be 220 feet at 25 m.p.h. and 617 feet at 70 m.p.h.



JIMMY DURANTE

says:

"I certainly hope you'll give to the American Cancer Society.

"I know what cancer can do. It took the life of my partner, Lou Clayton, and it strikes one in five Americans.

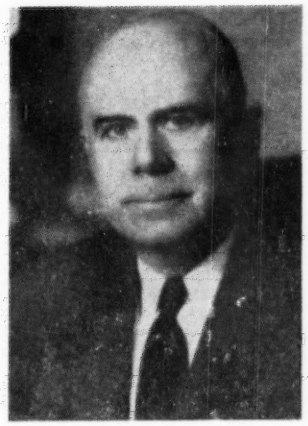
"So, just address an envelope like I did—to 'Cancer,' care of the postmaster of your town. Slip in as much as you can afford. From then on the American Cancer Society will do the job.

"Give now. Whatever you can spare is badly needed."

TRAFFIC NEWS

MacDonald Retires

The Institute of Traffic Engineers and its publication *Traffic Engineering* wish to join the National Highway Users



Thomas H. MacDonald

Conference in paying tribute to a truly great American, Thomas H. MacDonald, who retired April 1, 1953, as Commissioner of the U. S. Bureau of Public Roads after a distinguished career of 34 years.

The National Highway Users Conference published a special four-page edition of its *Highway Highlights* in tribute to Mr. MacDonald's (Hon. Mem., ITE) dedicated service, and we so heartily concur with the sentiment expressed on the first sheet that we take pleasure in quoting it verbatim.

SPECIAL
National Highway Users Conference
Washington, D. C.

Thanks, Chief!

A Tribute to "Chief" Thomas H. MacDonald, Retiring U. S. Commissioner of Public Roads

The 158 million highway users of this nation say, "Thank you, Thomas H. MacDonald!"

The thousands of miles of highways which form the binding sinews of America will serve as a constant reminder of your administrative ability, and devotion.

You have never forgotten the great tenets laid down by the framers of our Constitution. You recently told members of the House of Representatives, "The greatest service of the Federal-aid program is to provide a catalyst to bring the states and their cities and counties closer together in cooperative action. After 34 years of service I think that the role of the Federal Government is not to dictate to the states or cities or counties, but through the state legislatures and their highway departments to help their cities and their counties in the administration of this work. . . ."

Such high principle guided you, Thomas H. MacDonald, as you supervised the expenditure of more than six billion dollars.

The years of World War II, when our highways were deemed expendable, have made the goal of adequate roads more distant. Yet, as part of your defense activity, you directed your energies to the 1,523-mile Alaska Highway. Such bold projects were not strange to you since you were instrumental in planning and guiding progress of the Inter-American Highway, opening the way to greater friendship and understanding with our neighbors to the south. Following World War II, you saw plans for adequate highways go steadily forward.

Then, in 1950, the Communist juggernaut rolled over the 38th parallel in Korea. We faced problems of inflation and a steel shortage. Highway plans were again bogged down.

Today, with the help of your leadership, the march toward greater highway achievement has resumed. This is not goodbye. We wish you good luck in all your future undertakings, and trust your counsel will always be available. For your work, your wisdom, your patriotism through 34 years of distinguished public service, we simply say . . . "Thanks, Chief."

When You Change Your Address

. . . please notify us promptly. Your copies of "Traffic Engineering" will then reach you without delay and without interruption.—Traffic Engineering Magazine, Strathcona Hall, New Haven 11, Conn.

F. V. duPont Takes Federal Road Reins

Mr. Francis V. duPont of Wilmington, Delaware, succeeds Thomas H.

Chase Photo

Francis V. duPont

MacDonald as Commissioner of the Bureau of Public Roads.

Mr. duPont was born in Johnstown, Pennsylvania, May 28, 1894. Following secondary school education he was graduated in 1917 from the Massachusetts Institute of Technology with a Bachelor's degree in mechanical engineering. Upon graduation he was employed by M.I.T. in charge of the Aeronautical Division, U. S. School of Military Aeronautics. Following World War I he was employed by duPont and Cadillac Motors as a research engineer.

The new Commissioner served as a member of the Delaware State Highway Department from 1922 to 1949, including 23 years as Chairman. During his term as Chairman the dual highway system was inaugurated and the Governor Printz and other important roadways were constructed. He was responsible for directing the engineering, financing, and the commencement of construction of the Delaware Memorial Bridge, the fifth longest suspension span bridge in the world.

In addition to his highway activities, Mr. duPont has been Treasurer of the hotels Waldorf-Astoria, New York City; Bellevue-Stratford, Philadelphia; and the Willard, Washington, D. C. Also he has been president of the Equitable Building, New York City, and Equitable Trust Company, Wilmington, Delaware.

Tokyo Has Parking Troubles

Parking Time in the City Center is Limited to One Hour:—Parking control has eventually come to be an urgent problem in Tokyo. The Marunouchi area, known as the business center of Tokyo, has been a very inconvenient place to parking motorists as well as pedestrians because of its heavy traffic on the narrow streets together with imperfect parking facilities.

A joint investigation conducted by the Metropolitan Police Department, Metropolis Construction Committee and other organizations concerned has revealed the fact that about 1,800 or more cars were parked all the while on the streets occupying the space for many hours. It is true that in this area both sides of streets are actually packed with the parking cars which are found in two or three folds in an extreme case. As a result of it the cars involved are compelled to make their way in a long trail, constantly honking the horns, and the motorists are forced to stop their cars amid the traffic to get out, risking their lives, or to repeatedly circle the blocks awaiting for their turn to park.

In order to release this traffic congestion and danger and to increase the safety and efficiency of the traffic, the Metropolitan Police Department and the organizations concerned devoted themselves to the investigation and close study to find out a tangible countermeasure and came to the conclusion that the best solution of the problem at the present stage was to impose a certain restriction on parking, and it came into effect on October 11, 1952.

According to this new measure the area where office buildings are centered and motor traffic is most heavy has been designated—an area between a line drawn from Tokyo Station to Yurakucho Station and a line along the outer moat of the Imperial Palace, and the duration of parking within this area is limited to one hour during office hours from 8 A.M. to 5 P.M. except Sundays and holidays. If parking requires much longer than the limited time, it is requested for motorists to park their cars in comparatively spacious and less crowded streets around the designated area.

Tokyo Municipal News, January 1953

SAFE!

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Progress In Downtown Atlanta Reported

President John O. Chiles reports:

For the Central Atlanta Improvement Association the year 1952 was one of reorganization and revitalization. It was also a year in which the problems of downtown property owners were clearly defined, and progress was made toward their solutions.

On July 1, George Goodwin, former Atlanta newspaperman, was employed as executive director succeeding W. LeRoy Daughtry. With the support of the association's officers and directors, Mr. Goodwin has established a long-range program which concentrates on broad, basic developments as well as on individual property improvement, building cleaning, sidewalk repairs and the like.

For example: we are still interested in removing beggars from the streets; but the Downtown has a much greater interest in clearing adjacent slums where the beggars live. We are anxious that all the downtown area be made physically attractive; but all effort in this direction will be wasted if we do not at the same time solve the problem of *providing easy access* to the area both for motorists and for the users of mass transportation. It is important that the city government make downtown improvements such as the Marietta Street widening; but it is even more important that all local officials be made aware of the vital necessity for maintaining downtown property values.

No single organization can take credit for the remarkable progress that Atlanta is making in planning her future growth and protecting her future development. This association, however, during 1952 has served as an important member of the community team which, along with our elected officials at all levels of government, has produced a series of achievements that is, to say the least, remarkable.

What other city in America can point to the fact that it now has under way the following?:

Preparation of a master plan for future growth, preparation of a major street plan, construction of an expressway system, a citizens committee studying its transit problems, a citizens committee preparing a plan to meet its parking demands, a nationally known organization preparing a comprehensive zoning law, and another team of outstanding experts conducting a complete property re-appraisal.

This same community team, of which our association is a member, was instrumental during the past year in bringing about the completion of the Plan of Improvement and other changes in local governments.

The year saw certain specific developments in which this association played a particularly significant role. These include the July 1 city-county bond issue totaling $12,700,000 for completion of the north-south expressway system; completion of the Marietta Street improvement; adoption by the General Assembly of legislation to permit the building of a park and parking facility in front of the City Hall; renewed interest in the creation of a merchandise mart; providing better downtown street lighting; air conditioning of the City Auditorium and development of the Mitchell Street widening project.

The Mitchell Street project, which will provide an additional major access route to downtown, has been approved by the Municipal Planning Board and the public works committee of City Council. Although the project is not included in the current city budget, city officials have given assurances that they will make every effort to accomplish it during 1953.

In addition to the many projects which might be termed of general downtown interest, our association has worked on several specific improvements. In addition to the Mitchell Street project and the Capitol parking plaza, we are working on a plan that would improve Peachtree and Pryor Streets by providing a pedestrian access between those two streets somewhere in the vicinity of Luckie Street. We are working on the improvement of the Williams Street-Techwood Drive access to downtown from the north and the improvement of Decatur Street properties and other blighted areas south of the railroad tracks. We are exploring the possibility of providing tunnels under the Peachtree Ridge somewhere between Baker and Ellis Streets.

During 1952 we have followed closely the property re-appraisal program, and we have assured ourselves that the downtown interests are being protected there.

During the year much time and energy was spent on urban redevelopment—the program under Title I of the Federal Housing Act whereby cities and private enterprise may cooperate in the removal of slums which threaten downtown areas. Our association played a major role in winning approval of the McDaniel Street redevelopment project before the Municipal Planning Board and in City Council. The Georgia Supreme Court, however, has recently held the urban redevelopment procedure unconstitutional. We have already begun seeking other means of clearing the slums which surround our downtown.

On the administrative side, the directors adopted a budget of $20,000 for 1953 and voted substantial increase in dues to finance the expanded budget. There was also established a six-man policy committee to represent the association between directors' meetings and to guide the activities of the executive director.

For 1953 I recommend a continuation of the program established during the latter half of 1952. Education of the public and our community policy-makers to the importance of protecting and expanding the downtown should be continued. We must deal constantly with the problems of planning and of downtown access. Replacement of older downtown buildings with more productive facilities should be encouraged, and individual improvements, such as cleaning, new fronts, etc. should be stimulated.

We must make sure that a survey to show the accumulation of the people in the downtown area and their modes of their transportation is conducted in May. Results of such a survey when compared with similar surveys in 1951 and in 1948 will show the effect, if any, of decentralization on the downtown area.

Our goal remains unchanged—to make it easy and pleasant for the people of Georgia to work, shop and play in downtown Atlanta.

G. H. Herrold, City Planner 33 Years, Retires

Reprinted from the St. Paul Sunday Pioneer, January 11, 1953

After 33 years of city planning in which his ideas have been imprinted on all sections of St. Paul, George H. Herrold (Mem., ITE) is retiring at the age of 85.

The city planning consultant already has closed his desk but will remain on the active staff list until March 14 because of accumulated time off.

Members of the planning board and his technical co-workers will fete him at a dinner Wednesday in the Minnesota Club.

Herrold has been identified with St. Paul since 1899 when he became an executive engineer of the Chicago Great Western Railway.

He became a St. Paul staff engineer in 1912 and moved to the planning board a few years later, becoming director of city planning in 1920, a post he held until a year ago when his title was changed to consultant.

He participated actively in planning and designing such major St. Paul improvements as Kellogg Boulevard, the widening of Eighth Street through the Loop, the widening of South Wabasha and its extension to Concord, the location of the Robert Street bridge with a 56-foot roadway in place of a proposed bridge at Sibley, plus much of the Capitol Approach program.

"But it isn't always the biggest and spectacular things that bring the greatest applause," Herrold said. "One of my early suggestions was to cut back our curb corners at street intersections in downtown St. Paul.

"It was finally agreed to do it, and the corners were rebuilt on the basis of a curve with a radius of 10 feet instead of four feet, making it easier for traffic to turn."

Truckers and transfer men entertained Herrold at a dinner, extending him a vote of thanks for the curb change.

In other phases of his career, he proposed, wrote and fought for laws and regulations to improve St. Paul, such as an act to change assessments on paving, a move that spurred a paving program years ago.

Herrold was educated as a civil engineer at Stanford University. He has been active for many years in civic and professional circles here. He was president of the Engineering Society of St. Paul in 1916; was representative for the society at the American Engineering Council in Washington from 1926 to 1930 and is a life member of the American Society of Civil Engineers.

In 1922 he was president of the St. Paul chapter of the Civil Engineering Society, and he was chairman of the City Planning Division of the American Society from 1933 to 1935.

Herrold's wife died a few weeks ago. He has two children, Mrs. Lloyd E. Lilygren, St. Paul, and William Herrold, Fargo.

Please Mention
Traffic Engineering
When Writing to Advertisers

Compulsory Auto Insurance Proposals Kindle Legislative Activity

Legislators have submitted proposals, designed to provide financial redress for motor vehicle accident victims, in twenty states, according to a survey conducted by the National Highway Users Conference.

Keen attention is being focused upon New York State, perennial patternmaker in the field of insurance legislation, where a hotly contested battle is forecast in regard to a proposal (S. 60) which would require the procurement of liability insurance by motor vehicle owners as a prerequisite to obtaining registration. Governor Thomas E. Dewey, in his annual message to the Legislature, strongly endorsed enactment of this type of legislation. Arkansas, California, Georgia, Maryland, South Carolina, Tennessee and Washington are weighing enactment of bills predicated on the same basic reasoning. An Indiana proposal would require minors to be insured to the extent of $10,000 for injury to one person in an accident, $20,000 for injury to more than one person, and $5,000 property damage, following the precedent set by Rhode Island and New York.

In Massachusetts, the only state having adopted compulsory auto liability insurance as a panacea to the financial responsibility problem, law-makers are considering upwards of thirty bills which would amend or repeal the present law. Legislative discontent with the present law is reported growing with the increase in accidents and rising auto liability rates. Governor Christian A. Herter has proposed a "point system" whereby drivers involved in accidents would receive "demerits" intended to eliminate eventually faulty motor vehicle operators from the highways.

Measures introduced in Indiana, Oregon and Wisconsin would increase the minimum amounts required as proof of financial responsibility by those persons involved in at least one auto accident. Various other states are considering changes as a result of the recently revised Uniform Financial Responsibility Act (Act IV). This legislative approach to the problem has been most widely followed in the states.

The creation of an Unsatisfied Judgement Fund, constituted by additional levies on drivers' licenses, is being considered by the Legislatures of Maryland and Pennsylvania. This relatively new concept has been adopted by North Dakota and, more recently, by Michigan and New Jersey. An Ohio law, enacted in 1935, provides for levies on those required to show proof of financial responsibility, which funds are used in substantially the same manner as above proposal.

UNEC Sets TE Short Course At Hague

The World Touring and Automobile Organisation (O.T.A.) has invited the Royal Dutch Touring Club to organise an international course, or study week, on Traffic Engineering. This course is to be held at the Hague, from June 16th to 20th, 1953, under the presidency of M. le Ministre P. Charguéraud-Hartmann, Director of the Transport Division, United Nations Economic Commission for Europe.

There are to be eight main themes, on most of which a symposium of views from different countries will be presented. The emphasis will be on practical results achieved in every country in the prevention of accidents and the improvement of traffic flow. The eight themes are the following:

The Road User—"Education, Enforcement and Engineering."

Traffic Analysis—Determination of the present and future needs of traffic, and the difficulty of predicting future traffic.

Road user behaviour in relation to road conditions.

Selection of road features with reference to traffic needs and the behaviour of road users.

Automatic traffic control systems in towns.

Methods of recording accidents with a view to the improvement of accident black spots.

Examples of situations which have been improved and the results obtained.

Traffic engineering functions and administration in the U. S. A.

Apart from officials of the various countries, the speakers will include: Dipl.-Ing. J.-L. Biermanm of the Swiss Consulting Office for the Prevention of Accidents, and Dr. Ing.-M. E. Feuchtinger, Consulting Traffic Engineer, of Ulm. It is hoped that an American traffic engineer, Mr. Burton Marsh of the American Automobile Association, will speak on the eighth theme.

The course has the support of most of the West European governments, five of which were represented at a preliminary meeting in September at which the programme of the course was drawn up. Several governments have been invited to nominate speakers and submit reports in advance. The course will take place in the former Royal Palace at Nordeinde, the Hague, seat of the Netherlands Universities Foundation for International Cooperation. It is hoped that about 100 engineers and other persons concerned with traffic and safety problems will take part in the course, which will be the first of its kind. It should provide an opportunity for fruitful exchange of ideas on traffic problems.

Further details will be announced later. Meanwhile, engineers and others who would like further information should apply either to the World Touring and Automobile Organisation, 31 Belgrave Square, London, S. W. 1; or else to the Royal Dutch Touring Club (Traffic Engineering Department), 18-26 Parkstraat, The Hague.

LOOKING AHEAD

APRIL 27-29, 1953—WASHINGTON, D. C.
Annual Meeting, Chamber of Commerce of the United States, Chamber Building.

JUNE 20-JULY 3, 1953—ATLANTIC CITY, N. J.
Summer General Meeting, American Institute of Electrical Engineers.

AUGUST 10-12, 1953—LOS ANGELES, CALIF.
Annual Meeting, American Transit Association, Hotel Biltmore.

SEPTEMBER 14-18, 1953—NEW YORK CITY
Annual Meeting, Illuminating Engineering Society, Hotel Commodore.

SEPTEMBER 28-OCTOBER 1, 1953—BUFFALO, N. Y.
24th Annual Meeting, Institute of Traffic Engineers, Hotel Statler.

OCTOBER 5-8, 1953—COLUMBUS, OHIO
58th Annual Meeting, International Municipal Signal Association, The Neil House.

Lower Turnpike Speed Limit Advocated

The new 60-mile speed limit on the Pennsylvania Turnpike west of Bedford should be extended immediately to the super-highway's eastern half as an accident prevention measure aimed at making 1953 the pike's safest year to date, a former Pennsylvania State Police traffic chief declared recently.

Thomas N. Boate, who was a state police captain before he became accident prevention department manager of the Association of Casualty and Surety Companies, believes the "experiment" with the lower speed limit in western Pennsylvania, which started January 15, will save many lives if it is rigidly enforced.

Mr. Boate pointed out that most of the 165-mile western section where the top speed is now 60 miles an hour for passenger cars and buses and 45 miles for trucks has been the "deadliest and most dangerous stretch of the turnpike." Its record of fatal and serious accidents has "grown progressively worse," he said, since he patrolled that section of the highway as state police captain in charge of its traffic division.

Blaming the "unrealistic and unenforceable" 70-mile speed limit for the pike's record of fatal accidents and deaths, which he said was three times as bad as that of the entire state in 1951, Mr. Boate declared:

"The Pennsylvania Turnpike Commission has taken a big step in the right direction, but it hasn't completed the job that must be done with respect to safer speed limits and more enforcement manpower to make them fully effective. Before more lives are needlessly lost, the commission should junk the 70-mile speed limit entirely in favor of saner limits.

"For the greater safety of all turnpike users, the commission should reduce the permissable speed immediately on the remainder of the pike, a distance of 162 miles between Valley Forge and the Breezewood interchange, between McConnellsburg and Bedford, to at least 60 miles an hour. And it should enforce that limit 'without tolerance' there as it announced would be done in western Pennsylvania. Such action would permit its experiment with the 60-mile limit to be 100 percent complete.

"The 70-mile speed limit has proved nothing short of legalized murder and suicide. Motorists attempting to drive that fast or faster have been responsible for a great many of the 398 deaths that have occurred in accidents on the pike since it was opened in October, 1940. Last year 83 persons lost their lives on the pike, an increase of 17 over the previous year's death toll."

Mr. Boate advocated a 50-mile speed limit for the Pennsylvania Turnpike to minimize the "super-accidents" which he says have resulted largely from drivers losing control of their vehicles at high speeds.

"As I see it," he said, "the time has come for the Pennsylvania Turnpike to live up to its boast of being 'the world's safest highway.' It won't do that while it has a 70-mile speed limit, or even a 60-mile limit. A 50-mile top speed without stopping for lights or intersections will permit both passenger cars and buses to reach their destinations far more safely and almost as fast. Trucks, at 45 miles an hour, also will make far better time than on state highways, with but little appreciable difference from present running time at the legal speed of 45 miles an hour. A slowdown for safety should be given a fair trial on the turnpike, in the public interest."

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New Insurance Identification Service Provided

The American Fore Insurance Group (a division of the Continental Insurance Company) announced that they now provide all of their automobile insurance policyholders with a unique auto dashboard decal transfer which directs the driver . . . or rescuer in case of very serious accidents . . . to phone "Operator 25, Western Union", for the address of the nearest claim office. The size of the decal is 2″ by 1½″ and is designed for installation adjacent to the instrument panel.

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CLAIMS OFFICE

Control their approach speeds . . .

High approach speed to a signalized intersection is an all too familiar part of the traffic accident pattern. Many intersections in rural areas particularly are susceptible to this danger. Electro-Matic Model 812 Dispatcher can help.

In the absence of traffic the resting position of the signal is red in *all four directions*. As an approaching car actuates a detector, the green light is not shown until after a delay interval which has been gauged to insure that the driver slows down to a safe speed before entering the intersection. When traffic is passing through the intersection the operation of the Model 812 is indistinguishable from normal full-actuated control, detectors being installed in all approaches. However, when traffic slackens, with its attendant invitation to increased approach speed, the speed-controlling all-red interval automatically appears in the cycle.

As a further safeguard the Model 812 provides a dual clearance interval on each phase, with a red delay following the yellow. Both portions of this clearance interval are knob-adjustable, of course.

Write us for further details of the application of this type of control to *your* problem intersections.

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First Year of PAR Movement Sees Adequate Roads Activity in Twenty-Nine States

A little more than one year ago the PAR (Project-Adequate-Roads) movement was born. Much has been done in that eventful twelve month period toward stimulating needed improvement of primary, secondary, urban and farm-to-market roads. As a famous statesman used to say—"Let's look at the record."

First of all, it is generally agreed that the American people, as a whole, took a greater interest in road and street problems during the past year than in any one year of the last two decades. This interest is reflected in the reams of newspaper, national magazine and other material that has been written and distributed to millions. A large segment of the American public and trade press is acutely aware of the highway crisis and has done a remarkable job in alerting the nation to the need for action. The PAR movement and what it is trying to do has had the continuing cooperation and support of many segments of the great public information service, as well as industry, and will continue to work very closely with them.

Twenty-Nine States Have PAR Activity

The whole PAR idea is predicated on the sound principle that actual improvement of all roads—primary, secondary, urban, farm-to-market and city streets—must be planned and carried forward largely within the states. From the very inception of PAR it was realized that no movement which was purely national in character could get the desired results. That is why the greatest possible stress has been placed upon the initiation of PAR movements within each of the individual states where necessary.

During the past year, PAR activity has been started in 29 states and one metropolitan area, Philadelphia. In 10 of these 29 states preliminary steps toward innovating the PAR program in some form have been taken. Six other states are about to embark on a PAR campaign while two states are working actively for PAR objectives although they do not call their programs by the PAR name. The remaining 11 states where the PAR movement has been undertaken actively are: Arkansas, Colorado, Connecticut, Idaho, Kansas, Montana, Oklahoma, Tennessee, Washington, West Virginia and Wyoming.

West Virginia Shoots for PAR

West Virginia is the most recent of the states to initiate a PAR movement, under the sponsorship of the West Virginia Highway Users Conference. In an enthusiastic meeting, attended by representatives of organizations both within and outside the State Conference, PAR for West Virginia got underway. While the PAR movement has taken various forms in other states, the West Virginia group felt that a PAR committee should be organized for the purpose of studying and drawing up a program for highway improvement based upon PAR objectives.

Ernest L. Bailey, former state road commissioner, was elected chairman and John C. White, Charleston lawyer, was named secretary of the PAR program.

Mr. Bailey told the group that the critical road situation and the concern being expressed by interested persons throughout West Virginia had prompted him and others in initiating PAR in the state. He added that he would be calling upon all present to assist him in carrying out the PAR objectives.

The National PAR Secretary commended the West Virginia leaders for their public-spirited interest in the highway crisis and for their determination to achieve sound development of all classes of roads in their state. He urged a business-like approach to road programming through the publication by highway departments of annual reports which can be understood by the non-technical mind. "When the people know and understand what has been done, what is being done and what planned improvements for every road system, including those serving isolated farm areas, will cost, we can be sure that any sound program will get the public support it needs," Mr. Butler said.

Roy E. Jorgensen, Engineering Counsel for the National Highway Users Conference, explained to the West Virginia group how sufficiency ratings, strongly advocated by PAR, are being used in several states. The sufficiency rating system, he said, is flexible because it not only documents highway needs on the basis of structure, service and safety, but also takes into consideration other factors which influence highway construction, such as acquiring rights-of-way.

PAR and the American public's interest in highway improvement matters have come a long way in a year and the outlook for continued progress is extremely encouraging.

Port Authority Raises Minimum Speed Limits

Authorization to increase the minimum speed limit from ten to twenty miles per hour in the "slow" lanes of the Holland and Lincoln Tunnels, and the 178th and 179th Street Tunnels at the George Washington Bridge was announced March 12, 1953, by Howard S. Cullman, chairman of The Port of New York Authority, following the regular monthly board meeting at 111 Eighth Avenue. The new minimum speed limit will be effective May 1. The minimum speed in all lanes of all Port Authority tunnels will be twenty miles per hour and the maximum speed thirty miles per hour.

"Greatly increased traffic during the post-war years, especially during peak hours, has taxed our tunnel facilities beyond their capacity," Chairman Cullman stated. "With long lines of passenger cars, buses and trucks waiting to pass through a facility, the present minimum speed of ten miles an hour in the slow lanes is below the reasonable operating level of vehicles in operation today.

"Serious loss in tunnel capacity is caused by the excessive gaps between vehicles created particularly by slow moving trucks," Mr. Cullman concluded. "The closing of these gaps will accommodate an additional 120 passenger cars an hour during the morning rush hours, and 150 an hour during the evening peak period."

Toll Road Proposals Placed Before Many State Legislatures

Seventeen state legislatures are considering proposals which would either grant enabling authority to construct toll roads or set up study committees to determine their economic feasibility, a survey by the National Highway Users Conference reveals.

The survey also reveals that one state (Georgia) is considering a bill to repeal its toll road law.

Bills for establishing toll road authorities have been presented in Arkansas, California, Connecticut, Illinois, Kansas, Michigan, Missouri, Nebraska, New Mexico, Rhode Island, Texas and Washington. One Arkansas proposal already has been defeated, while another has been withdrawn after it had passed the House.

Five states have pending proposals to set up toll-road economic study commit-

tees. These are Illinois, Iowa, Minnesota, Missouri and Wisconsin. Arkansas recently adopted a bill which would set up such a study committee.

A number of bills in California and Connecticut propose establishing State Thruway or Toll Highway Authorities, backed by State credit in some cases. The Illinois proposal would create the "Toll Truck Highway Authority" with power to designate any part of the State primary system as a toll truck highway if used by a sufficient number of trucks, as well as to construct new roads, financed by a $380 million bond issue.

The New Mexico proposal would delegate authority to the State Highway Commission to construct toll roads. Rhode Island bills would create the "Southern Rhode Island Turnpike and Bridge Authority" to build a toll road across the State from the Connecticut to the Massachusetts borders, subject to referendum in the 1954 General Election. In Texas, a proposal to construct a 31-mile toll road from Dallas to Fort Worth at an estimated cost of $31 million, has passed the lower House. The Washington measure proposes a toll road from Tacoma through Seattle to Everett.

An Indiana bill, which has passed one House, would transfer the Toll Bridge and Toll Road Commissions to the State Highway Department. An Iowa bill would empower the Executive Council to grant a franchise to private corporations to construct toll roads. Maryland bills would authorize the collection of tolls on any road in the State Highway System if an alternate free route exists, while another proposal would require tolls to be charged on any "denied access highway." Several Massachusetts bills would authorize the collection of tolls on Routes No. 1 and 128.

Demolition for 3rd Tube Project Underway

The Port of New York Authority began demolition of the first of ninety structures in the Manhattan approach area to the $90,000,000 Third Tube and the two existing tubes of the Lincoln Tunnel on March 24th at 556 Tenth Avenue. The site of the four-story brick building at the northeast corner of Tenth Avenue and Forty-first Street, formally occupied by the Atlantic and Pacific Tea Co., is required for the widening of Forty-first Street between Dyer and Tenth Avenues.

Demolition is being performed for the Port Authority by the George A. Cosman Wrecking Company, Inc., 1 Montgomery Street, Jersey City, New Jersey.

The demolition of 52 tenements, 21 loft buildings and 17 commercial structures in the Lincoln Tunnel Third Tube approach area in Manhattan, extending from Thirtieth Street to Forty-first Street between Ninth and Tenth Avenues, will continue as buildings become available in order to complete the Third Tube by 1957. About three-quarters of the residential dwellings are cold-water flats in five-story walk-ups.

Relocation of 800 residential tenants in the Third Tube area was started in January 1953. Since then, 300 tenants have been relocated by the Port Authority with the aid of 2,000 brokers.

Under the tenant relocation program, a fee is paid to real estate brokers engaged by the Port Authority where their services are required, and the Port Authority pays not more than $100 to the tenant for moving expenses. Tenants who vacate without the aid of a broker receive payments up to a maximum of $200. The Authority is not participating in the relocation of the 100 business and commercial tenants in the area. Letters have been sent directly to the tenants affected by properties already purchased advising them in full details of the relocation program.

In the construction of the $24,000,000 Port Authority Bus Terminal, opened in December 1950, the relocation of 600 families and the evacuation of 164 commercial tenants were successfully completed by the Port Authority despite the critical housing shortage prevailing throughout the New York area.

Ground was broken for the Third Tube on September 25, 1952, in Manhattan at Thirty-eighth Street east of Twelfth Avenue. When it is completed in 1957, the two-lane trans-Hudson tube will increase by 50 per cent the annual capacity of the Lincoln Tunnel and double the peak-hour capacity. It will relieve the present intolerable congestion on approaches to the tunnel in Manhattan and New Jersey.

50 Year Ford Story In Pictures Published

Ford At Fifty, a picture story of the automobile industry, an industry that directly or indirectly provides Americans with one out of every seven jobs in the country, was published in April by Simon and Schuster, as part of the Ford Company's fiftieth anniversary observance. It is an intimate portrait of the automobile industry, the people who make it work, and its effect on America, told in terms of one company.

"The growth and achievement of Ford Motor Company have been made possible by the kind of America in which we live," says Henry Ford II. "While this is a portrait of an American industrial enterprise taken in its fiftieth year, it is also a look at America and people at work."

Preparation of the 108-page book began in January, 1952. It was produced editorially by Picture Press, Inc. of New York City. The staff was headed by Joseph J. Thorndike, Jr., former managing editor of *Life*, and the text was written by Joe McCarthy, managing editor of *Yank*, the Army Weekly during World War II, and now a free-lancer whose writing has appeared in *Saturday Evening Post*, *Colliers*, etc. The 228 photographs, many of them in color, were taken by such photographers as Philippe Halsman, Thomas Hollyman, David E. Scherman, Arthur Shay, Suzanne Szasz. Four-color endpapers showing famous cars from 1903 to 1953 were designed by Boris Artzybasheff.

The story opens with an informal camera-and-text study of the changes the automobile has brought since 1903 to a typical American town, Sacramento, California. There, "an American revolution" has resulted in one automobile for every 1.6 residents, created curb service at restaurants, banks, libraries, and the post office, and has broadened trade areas for local merchants.

The book then turns to Henry Ford, "a man and an idea." The original and fabulous growth of Mr. Ford's automobile manufacturing system is told through anecdotes and pictures, including a painting by Norman Rockwell.

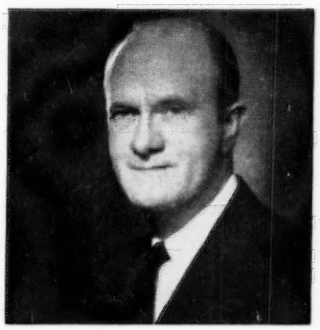
Continuing through today's production system, the book takes the reader behind the scenes, introduces him to the people, guides him around the factories, the steel mills, the blast furnaces and the assembly lines at the River Rouge, Cleveland, Atlanta, Cincinnati, and St. Paul. There is a two-page "how it works" color picture map of an assembly line by Anthony Petrucelli and a fascinating introduction to the hitherto secret work of engineers and stylists, who plan and test new models five years in advance.

Ford At Fifty (price $2.95) is a look at people at work in productive America—a backstage tour through that fabulous American phenomenon, the Ford Motor Company.

New Appointments . . .

Flanakin Joins American Trucking Associations

H. A. Mike Flanakin (Mem., ITE), acting director of the Engineering Experiment Station at Louisiana State University, Baton Rouge, La., accepted appointment as Highway Engineer for the American Trucking Associations, Inc., with headquarters in Washington early this year.



H. A. Mike Flanakin

Mr. Flanakin, 47, assumed his new duties here February 2. Born at Big Sandy, Texas, he was an associate professor of engineering at LSU from 1947 until he became acting director of the Engineering Experiment Station in 1951. In this post, he continued teaching the courses in highway engineering and transportation which he established for the University in 1947.

Since 1951, he has coordinated all research activities of the engineering faculty at LSU and also has been in charge of all engineering extension services, short courses, and conferences dealing with highway engineering and safety. In addition, he has served as a consultant to several municipalities on their traffic and city planning problems.

Mike Flanakin received his civil engineering degree at LSU and later received a Traffic Engineering Certificate at Yale University. Between 1927 and 1936, he worked on highway construction and bridge design for the Louisiana Highway Department, bridge and structural design for the American Bridge Company, and the design and construction of wholesale and retail gasoline service stations in Louisiana, Mississippi and east Texas.

In 1936, along with three other engineers, he set up the Traffic and Planning Division of the Louisiana Highway Department and later had full charge of the Division, which reviews all construction plans of the Department before contracts are let, and makes engineering and financial studies leading to long-range programs for highway development and improvement.

In 1941 and 1942, he was State Planning Engineer for Louisiana in charge of coordinating all parish and regional planning in the state. In 1942-43 and again in 1946-47, he was area director for the National Housing Agency in the Dallas regional office.

During the war, Flanakin served as a major in the U. S. Army Transportation Corps. He was successively an instructor in highway transportation at the Corps' Officer Candidate School, in charge of design and conversion of cargo ships to personnel and animal transport ships, repair ships, and hospital ships, and motor transport planning officer for the entire Fourth Transportation Corps zone.

He is a member of many professional and honor societies, and other groups, including the Institute of Traffic Engineers, the American Society of Engineering Education, the Louisiana Engineering Society, the Louisiana Safety Council, the Governor's Highway Safety Committee, Tau Beta Pi, Phi Kappa Phi, Sigma Tau Sigma, American Road Builders Association, and the American Society of Refrigerating Engineers. He is a registered engineer in the States of Louisiana and Texas.

Mrs. Flanakin and their two daughters will join him in Washington in the early spring.

ITE CALENDAR

24th ANNUAL MEETING

Hotel Statler
Buffalo, New York

September 27 - October 1, 1953

25th ANNUAL MEETING

Kansas City, Missouri

September, 1954

Bierman Moves to Panama Zone

Melvin Bierman (Jun. Mem., ITE), City Traffic Engineer, Saint Joseph, Missouri, for the past two years, resigned in April to accept the position of Traffic Engineer with the Panama Canal Company, a U. S. Government agency responsible for operation of the Canal and local government of the Canal Zone. In his new post he will have charge of all traffic engineering activities within the Zone from headquarters at Balboa Heights.

Melvin Bierman

Born in St. Louis, Missouri, in 1925, Bierman finished his native city's public schools in time to serve two years as a Watertender aboard a U. S. Navy destroyer during World War II. Following his war service he entered Washington University (at St. Louis) from which he received his degree in Industrial Engineering in January, 1950. Employed immediately by the city agency known as the St. Louis Expressway Project, he spent the next eight months crystal gazing the amount of induced traffic in 1975 to be expected on the proposed expressways.

Suspecting that time might prove his calculations to be the subject of some possible error he decided to clarify the cloudiness of his personal crystal by enrolling for a year of graduate work at the Yale Bureau of Highway Traffic. Upon receiving his certificate in June 1951 he accepted the Traffic Engineer's position in St. Joseph.

In addition to his Institute membership, he is a member of the American Legion, Masons, and Junior Chamber of Commerce. Being still in the state of singleness he has ample opportunity, he says, to enjoy his favorite pastimes of fishing, bowling and pinochle.

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White Heads New Traffic Division

Early in January the Mississippi State Highway Department announced a departmental reorganization creating a Division of Traffic Control & Safety, with equal rank to its other major divisions, and named Arthur M. White (Mem., ITE) its long-time Assistant Maintenance Engineer to head the new Division as its first Traffic Control & Safety Engineer.

Arthur M. White

The new Division will deal primarily with traffic engineering functions, including full supervision of all signs, signals and pavement markings; review of new highway construction design, location changes; review of traffic accident reports; development of accident prone location corrections and cooperation with municipalities in traffic studies and advisory services of a general nature. Major specific overall traffic studies in municipalities will continue to be handled by the Planning Division.

Additionally, the new Division will be responsible for the departmental employee safety problem and the conduct of a continuous personnel safety program.

Mr. White was born at Starkville, Mississippi, and graduated from Starkville Public School. He attended Mississippi State College, and was graduated in Civil Engineering in 1935. During the scholastic year 1946-47, he attended Yale University, Bureau of Highway Traffic.

He commenced work for the Mississippi State Highway Department in August, 1935, and was called into the Army as a first lieutenant in June, 1941. His Army career consisted of seven months as an officer in an anti-aircraft artillery battery, two years as instructor in the anti-aircraft artillery school, and two years as a member of the anti-aircraft artillery board testing and developing new weapons and equipment. He was separated from the Army with the rank of Major, in October 1945, and now holds the rank of Lieutenant Colonel in the Reserve Corps.

After the war, he returned to the Mississippi State Highway Department as Assistant Engineer of Maintenance, with particular duties to supervise the marking and signing of the highways. After completing the course at the Yale Bureau, he was assigned numerous duties in traffic engineering under the Maintenance Division.

In 1936, White married the former Juanita Seale, of Jackson. They have two sons, Arthur, Jr., who is 13 and a student at Bailey Junior High School, and William Seale 12, a student at Saint Andrews.

He is a member of the Scottish Rite Masons, a registered engineer and a member of the American Legion.

Fitzgerald New Deputy Chief Engineer

The appointment of John J. Fitzgerald, Jr. of 303 Chestnut Street, West Hempstead, New York, as deputy chief engineer of The Port of New York Authority, was announced April 3rd by Austin J. Tobin, executive director of the bi-state agency. Mr. Fitzgerald will assist John M. Kyle, the agency's chief engineer, in the vast construction program of the Port Authority which calls for capital expenditures totaling $76,733,000 during 1953 alone.

Mr. Fitzgerald, who has had twenty-eight years experience in all phases of engineering construction and administration, for thirteen years was chief engineer for the Del Balso Construction Corporation of 500 Zerega Avenue, New York. He has supervised the construction of projects such as airport facilities for the United States Army Corps of Engineers at Kindley Air Base, Bermuda; a Manhattan tunnel on First Avenue near the United Nations Building and, for the New Jersey Turnpike Authority the Railroad Avenue Viaduct and Morses Creek Bridge in Linden, New Jersey.

He also supervised the construction of the foundations of the Gun Hill Houses, a New York City Housing Authority project, and, for the Borough of Brooklyn the three-level cantilever section of the Brooklyn-Queens Connecting Highway. Other projects with which he has been associated in New York and throughout the country include the construction of tunnel approaches and an armory as well as work on subways, railroads and sea walls.

Mr. Fitzgerald served in Europe and the Pacific with the United States Army Corps of Engineers from 1943 to 1946. He attained the rank of major.

He was graduated in 1923 from Catholic University, Washington, D. C., and received his Master's degree in civil engineering in 1924. Mr. Fitzgerald is 50 years old, married and the father of five children, three daughters and two sons. He is a member of the New York State Society of Professional Engineers.

ITE Sustaining Organizations

Having complied with all requirements of Article XI of the By-Laws, a certificate as SUSTAINING ORGANIZATION of the Institute of Traffic Engineers for 1953 has been issued to the following organizations:

A'G'A Division of Elastic Stop Nut Corporation of America
1027 Newark Avenue
Elizabeth 3, New Jersey
Irving J. Mack, *Representative*

American Transit Association
292 Madison Avenue
New York 17, New York
George W. Anderson, *Representative*

The Marbelite Company, Inc.
27 Warren Street
New York 7, New York
William E. Lentz, *Representative*

Miro-Flex Company, Inc.
1824 East Second Street
Wichita, Kansas
H. N. Carver, *Representative*

Prismo Safety Corporation
Huntingdon, Pennsylvania
John C. Horn, *Representative*

Reflexite Corporation
114 Manhattan Street
Stamford, Connecticut
Raymond F. Hibbert, *Representative*

Traffic & Street Sign Company
84 Foundry Street
Newark 5, New Jersey
William H. Spurgeon, *Representative*

SECTION NEWS

New York Metropolitan Section

The fourth (dinner) meeting of the 1952-53 fiscal year was held at the President Tavern, March 25, 1953. Twenty-seven members and guests were present.

The principal speaker of the meeting was Colonel Walter L. Braybrooke, Assistant Chief Engineer, New Jersey Highway Authority, who gave a very interesting and informative talk about New Jersey's "Garden State Parkway". Colonel Braybrooke gave the history of the Parkway from its inception in 1945, through the passage of legislation on the bond issue, down to the present stage of construction. The present plans call for the Parkway to extend from Paterson on the north to Cape May on the south. The Authority hopes to be able to extend the Parkway at some future day from Paterson to the New York State line.

Colonel Braybrooke presented some interesting traffic flow figures along the route of the proposed Parkway, and described some features of the Parkway construction.

A question and answer period followed Colonel Braybrooke's talk.

Reported by Nathan Avins
Secretary-Treasurer

Western Section

(Clipped from the February Western ITE, the monthly newsletter of the Western Section, edited by W. H. Carsten, Secretary-Treasurer of the Section.)

From the Bay Area

Norm Kennedy reporting on the Fifth Annual California Street and Highway Conference held this year in Berkeley, writes that an area ITE dinner meeting held on Thursday evening, February 5th, was attended by 167 members and their friends. The usual vesper service preceded the banquet. Among those attending was Ed Wetzel from the New York Metropolitan Section. After dinner his friend, Colonel Cal Whittle, a transportation officer recently returned from Korea, talked about traffic and transportation problems in Korea.

Following Colonel Whittle's brief talk, the Bureau of Public Roads film on the Maryland Road Test results was shown. This (in Hollywood language) is a super-colossal production well worth seeing.

Skinny DeYoung was in Berkeley for the Street and Highway Conference and for the ITE dinner meeting. Skinny's great contribution, financially and otherwise, to the success of the vesper service was much appreciated.

Ed Telford, Traffic Engineer for the California Division of Highways, is being transferred to Los Angeles as District Engineer.

The Los Angeles Area

From Harry Parker we hear that thirty-four members and friends of the Institute in the Los Angeles area attended a dinner meeting on January 20th. With the exception of the State Division of Highways and the Institute of Transportation and Traffic Engineering of the University of California, the engineering organizations of the area were well represented. The guest speaker of the evening, Mr. John Hall of the Pasadena Police Department, described the traffic problems encountered when a town of 105,000 population plays host to upwards of a million visitors on a single day. With the Tournament of Roses Parade held in the morning, the Rose Bowl football game in the afternoon, and Santa Anita Race Track in full swing, it requires about 1500 policemen to keep traffic moving. The closest liaison is maintained with neighboring communities and it is that liaison, together with careful advance planning, which keeps traffic moving with reasonable success. "Pete" Rask, Pasadena traffic engineer, who was also among those attending the meeting, corroborated Mr. Hall's comments and elaborated on them.

The meeting was assured of success early in the evening when Skinny DeYoung with an able assist by Red Mathews, took it upon himself to keep the bartender busy. (Thanks again, men—but I still can't see putting eight detectors on each approach . . . H. P.)

In the Mountain Area

Hank Barnes has been in the hospital and a very sick man the past few weeks. He underwent major stomach surgery on February 1, and is now well on the road to recovery. His untimely sickness postponed his consulting trip to Baltimore, Maryland, until mid-March or April.

Jack Bruce writes: Your Colorado correspondent and Al Pepper will speak jointly this month at the annual Drivers' Clinic sponsored by the Lions Club in Suburban Westwood in the Denver Area. This session, at which both City and State traffic agencies are to be represented, is featuring a discussion on the topic, "Traffic Engineering for Safety."

A local columnist writing for a Rocky Mountain newspaper devoted generous space to a commentary on the educational slogan THINK! now appearing along Colorado's highways on the exposed surface of ICY ROAD warning signs folded into a non-functioning position. The one-word admonition is being used experimentally to remind drivers to keep their minds on the road and think about their driving. The columnist fears that the slogan might breed traffic homicidal tendencies by tempting men to conjure up a vision of Marilyn Monroe or prompting women to daydream about their new spring bonnets. He suggests instead that the Department of Highways take a cue from the cigarette manufacturers and employ some alphabetical cryptogram like L.S.M.F.T. which interpreted trafficwise might mean Lost Sleep Means Fatal Tragedies or perhaps D.B.H.S. meaning of course, Don't Be Half Safe!

Bob Dier, City Traffic Engineer of Long Beach, was in Denver for a brief visit.

The balmy shirtsleeve weather imported from California to Colorado during the month of January spurred traffic activity to a new peak around the Columbine State.

Arizona Area

Chuck Haley, former Assistant Traffic Engineer for the City of Phoenix, has taken a new position in Evanston, Illinois.

The Oregon Area

Bud George, Co-Chairman of the Oregon Area, says that Al Head has threatened to do a bit of head-rolling if the Co-Chairman failed to get some news in the February issue of Western ITE. Bud, who is very allergic to such treatment, submits the following:

Al, Bruce Crandall and Val Johnson were among those who participated in the very interesting sessions of the Traffic Safety meeting during the Oregon Governor's Safety Congress held in December.

Our national ITE President, Bruce Crandall, recently returned from Washington, D. C., where he attended the annual meeting of the Highway Research Board. An ITE board meeting was also held concurrently with the HRB meeting.

An Oregon Area meeting was called (February 27, 1953) by Area Co-Chairmen, Carlton Robinson and Bud George. The meeting, held in Salem at the local 66 Brewery was well attended. Captain Walter Lansing of the Oregon Traffic Safety Division provided an in-

OVERHEAD SIGNS

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formative evening about Oregon's radio program on traffic safety, "You Never Know."

Several former members of the Oregon State Highway Department's Traffic Engineering Division recently changed employers. James Booth, a 1952 graduate of the Yale Bureau of Highway Traffic, has been appointed Acting Executive Director of the Traffic Commission for the City of Baltimore, Maryland. Lee Kies, who will be a 1953 graduate of the ITTE at Berkeley, California, will return to Oregon as Traffic Engineer for the City of Eugene. The best wishes of the Western Section go to both in their new positions.

Fred Fowler has been busy taking the headaches out of traffic on the Willamette River Bridges in Portland. Fred has utilized the reversible-lane theory of traffic control on these bridges. From all reports the project has been a success.

1953-1954 Nominations

The nominating committee composed of Dave Morris, Chairman, Ellis Mathes, Jim Reading, Wayne Morris, and Al Pepper has submitted the following nominations for officers for the Western Section, Institute of Traffic Engineers (1953-1954):

President, Don Berry; Vice-President, Al Head, Hank Barnes; Secretary-Treasurer, Win Carsten.

From the Roving Reporter

Skinny DeYoung, prolific in the matter of reporting, writes that:

Ed Cleary, formerly with Hank Barnes in Denver, is now with Les Williams in Philadelphia.

Curt Matyas is in the Navy, stationed somewhere in Florida.

Skinny also reports that he is recruiting a team of fine tennis players around San Diego and Los Angeles with which he hopes to wrest the tennis crown from the Northwest area. Among prospective members of his team are Ed Hall, Al Hutchison, and Jerry Skiles. The tennis matches are scheduled during the annual conference in Seattle and will be held (says Skinny) even at the expense of the technical sessions.

Note from WITE editor: Any team that Skinny might recruit would cause the Northwest's champions little concern.

Traffic Award

The Accident Prevention Department of the Association of Casualty and Surety Companies has announced Fred Fowler, Traffic Engineer of Portland, the 1952 winner of the "Getting Results" award. The hundred dollar award was for Fred's use of the advance flashing warning lights on approaches to signalized intersections where sight distance was restricted. (See Case Study No. 112—Getting Results.) Congratulations, Fred.

Reported by Win Carsten
Secretary-Treasurer

Safety Research Committee Releases Fifth Newsletter

The following items have been clipped from the National Research Council's Committee on Highway Safety Research fifth Newsletter released April 1, 1953 by Technical Director T. W. Forbes.

Operations Research Study of Accident Causes

At its January 1953 meeting the parent committee considered the recommendations of the Subcommittee on Research Area Priorities.

Singled out for immediate activation was one type of research recommended by the subcommittee, namely, a study by Operations Research techniques of accidents on high speed highways. This would be laid out with proper statistical design and would employ a team of scientifically trained personnel in a special investigation of accidents for causal factors.

Other research areas recommended were studies of the effect on driving performance and on accidents of ingested chemical agents, certain visual factors, combined off-duty stresses in military personnel, motivation of drivers and a wide range of attention factors. Development of a driving simulator of such accuracy as to follow testing of effects of various factors was also to be encouraged.

Traffic Problems East and West Of the Mississippi River

Those in the eastern part of the country sometimes may give the impression, and perhaps may feel, that they have the most pressing traffic accident problems. After driving 8500 miles via Lincoln, Nebraska, Iowa City and Salt Lake City to Seattle, San Francisco and Los Angeles and returning by a southerly route, one is impressed with the fact that the seriousness of the traffic accident problem is not confined to any one part of the country. Discussion with research and traffic people indicated grave concern in all of the states visited, caused by the number of serious accidents, even though the national accident rate per 100,000,000 vehicle miles has dropped considerably over the last ten years.

Reports would seem to indicate that many of the same kinds of accidents that happen on high speed highways in the East are occurring on high speed highways in the Midwest and West and the same can be said for accidents occurring under lower speed conditions and in city conditions.

Encouraging Interest in Highway Safety Research

Since it was not possible to invite to the June 1952 Conference as many research scientists from Midwestern and Western universities as from those in the easternmost part of the country, the Technical Director's trip was planned to include calls at the majority of state universities west of the Mississippi River. An attempt was made to get the reaction of as many scientists and engineers as possible to the report of the June 1952 Highway Safety Research Correlation Conference. Time was limited and those contacted were mostly in the fields of psychology, engineering and traffic but it is hoped that reactions will be received from other fields as well as from other institutions.

It was encouraging to find widespread interest in the research recommended by the June 1952 Highway Safety Research Correlation Conference.

Changing Driver Attitudes Does This Make Sense?

In many discussions of the causes of traffic accidents the conclusion has been voiced that attitudes of the general driving public are very important and the question has been asked, "What can you do about it?"

In one such discussion the suggestion was made that "you cannot hope to change the attitude of the driving public." A medical man who was present objected and pointed out a parallel in the field of public health. A similar problem once existed in a lackadaisical attitude toward public health measures but *this attitude has been almost completely reversed* in the last thirty or forty years. This result he felt was due to educational campaigns, *based upon widespread research* on the causes of disease in all of the medical schools at universities all over the country and the publication of these research results both in the technical and in the popular scientific literature. Now the general public understands what is at stake in public

(Continued on next page)

ON THE SHELF

Compiled by
Mrs. Cele Kagan, Acting Librarian
Yale Bureau of Highway Traffic

American Association of State Highway Officials.

Public Roads of the Past: 3500 B.C. to 1800 A.D. The Association, 1952 101pp.

This volume, through the research of Albert C. Rose, highway engineer and historian of the Bureau of Public Roads, includes the Public Roads of the past articles that appeared in American Highways from April, 1944, through 1949.

American Association of State Highway Officials. Committee on Traffic. Subcommittee on Traffic Control Devices.

National Practices for the Operation and Protection of School Zones and Crossings. (Forty-Eight States, the District of Columbia, and Three Territories Reporting). The Association. 1952.

To ascertain current practices among the highway agencies of the nation and to poll opinion as to the adequacy of existing national standards, a comprehensive work sheet was developed to investigate the design and use of all traffic control devices applicable to school zones or crossings. The work sheet was divided into four major subdivisions consisting of signs, markings, signals, and islands to permit convenient cross reference to the recommendations and specifications prescribed in the current national "Manual on Uniform Traffic Control Devices for Streets and Highways".

American Society of Planning Officials.

Guides for Community Planning. The Society. 1951. 23pp. $2.00.

This bibliography has been prepared primarily for newly formed planning commissions and for citizen organizations interested in promoting planning programs and community development. It is also intended for general use as a selected list of both elementary, popular presentations of planning and of manuals and technical works covering specific aspects of planning. Also included are special sections of references to programs for citizen planning groups and to planning textbooks and programs in the public schools.

(Continued from page 252)

health measures and gives them active support. Widespread research on accident causes should have a similar effect.

This parallel between public health attitudes and driver attitudes has been presented to a number of people in discussions of highway safety research and it seems to have met with rather general approval.

What do you think? Does the comment make sense?

Automotive Safety Foundation.

An Engineering Study of North Dakota's Roads and Streets. The North Dakota State Highway Department. 1952. Prepared for North Dakota Legislative Research Committee by the Foundation, in cooperation with the State Highway Department and the U. S. Bureau of Public Roads. 1952. 183pp.

Contents: (1) The historical background of motor transportation and highway development; (2) the appraisal of the present condition of roads, streets and structures and the development of programs of necessary improvements, maintenance, and traffic operations; and (3) a review of present legislative policies and management practices and recommendations for their improvement.

Automotive Safety Foundation.

California State Highways; an Engineering Study of Improvements Required to Serve Present and Future Travel. The Foundation. 1952. 70pp.

The report describes the results of an extensive review of the condition of the State Highway System in relation to present and future travel and the improvements needed to meet growing needs.

Contains: Development of highways to date; traffic trends; the engineering appraisal; status and deficiencies of the system; type and cost of needed improvement; program alternatives.

Brenham, Texas, State Highway Department. Highway Planning Survey.

Brenham Origin and Destination Survey. The Department, in cooperation with the U. S. Bureau of Public Roads. 1952. 39pp.

A survey designed to sample the movement of traffic on all external routes of travel into and through Brenham.

Burlington, Vermont, City Planning Commission.

Traffic and Parking Survey. Technical Planning Associates, New Haven, Conn. 1952. 35pp.

Contains: The Traffic Survey; Parking; Recommendations on Traffic; Recommendations on Parking Facilities.

California. Department of Public Works. Division of Highways.

A Study of the Relation Between Number of Accidents and Traffic Volume at Divided Intersections. The Department. 1952. 27pp.

This report presents a graphic expression of the accident-volume relation at divided highway intersections. The expression was produced by averaging the past accident experience at 150 intersections. A total of 1,811 accidents was tabulated.

Chamber of Commerce of the United States.

Business Action for Better Cities; a Complete Report on the Businessmen's Conference on Urban Problems. The Chamber. 1952. 185pp.

Fourth National Businessmen's Conference. Contains: Urban planning problems; Basic factors in city growth; Streamlining urban traffic; Off-street parking; Redevelopment with modern highways; Urban redevelopment.

Chicago, Illinois. Department of Streets and Electricity. Bureau of Street Traffic.

Cordon Count Data of the Central Business District, Chicago, Illinois, May 1952. Cooperating agency; Chicago Association of Commerce and Industry.

The Cordon Count Data is the twenty-second of a series of Cordon Counts taken since 1926.

Colorado. Department of Highways. Planning and Research Division.

Manual on Uniform Traffic Control Devices for Streets and Highways. The Department. 1952. 127pp.

An authoritative guide, adopted 1952, to the design and application of official devices.

Crowell-Collier Publishing Company.

Automotive Survey. The Company. 1952. (No. 16).

Part I—16th Annual report on the market for passenger cars; Part II—7th annual report on the market for passenger car tires.

Dallas, Texas. State Highway Department. Highway Planning Survey.

Parking Survey of Dallas, Texas, Central Business District. The Department, in cooperation with the City of Dallas and the U. S. Bureau of Public Roads, 1951.

The survey was undertaken to determine the location and amount of additional parking spaces needed, the parking habits of Dallas drivers, the observance of existing parking regulations and to obtain data on the use of and need for truck loading and unloading facilities.

Davis, William E.

Survey of Grade Separation Financing in the United States. The Tax Research Association. 1952. 48pp.

This survey is based on information

(Continued on page 255)

Positions Available

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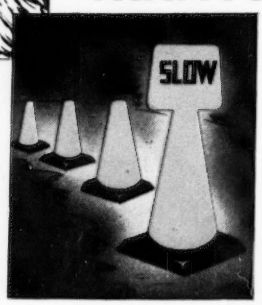

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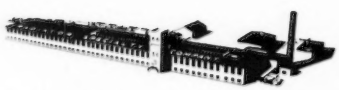

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WASHO Road Test Activity Resumed

The Road Test Advisory Committee of the Western Association of State Highway Officials has announced that "traffic on the test road during 1953 shall be conducted in two stages." The first stage is to begin on or after April first whenever the temperature of the surface course, base, subbase, and subgrade shall be above 40 degrees. The Committee, by resolution, sets a time limit of sixty days which shall be devoted to deflection measurements under single axle loads ranging from 10,000 to 22,400 pounds, and tandem axle loads from 18,000 to 40,000 pounds.

Stage two of the '53 WASHO tests will begin about June first, and will cover the application of loads originally contemplated for accelerated testing, that is 18,000 and 22,400 pound single axle, and 32,000 and 40,000 pound tandem axle loads. The resolution calls for the traffic on the strip to continue until freezing temperature is recorded in the pavement at a depth of 18 inches at any point. This stage constitutes a resumption of the basic test operations which were suspended for the winter on November 27, 1952.

Participating states will be asked to provide an additional $100,000 for operating funds, and industry groups will be asked to supply equipment for a longer period.

The WASHO test road is located about half way between Pocatello, Idaho, and Ogden, Utah, just north of the Utah-Idaho border. When the test is completed, the test section will be incorporated in the Idaho highway system.

(Continued from page 253)

obtained from questionnaire replies from 37 state highway departments, the District of Columbia and 26 metropolitan cities. The survey shows that time wrought a radical change in the way highway-railway grade crossing eliminations are financed. The greatly increased use of highways by motor vehicles has made it obvious that the major benefits are obtained by motorists, not the railroads, when grade crossings are eliminated. The proportion of cost is usually determined by negotiation based on relative value in each case. The survey was undertaken to show the total cost of grade separation for the 12-year period ending in 1950.

Denver, Colorado. Department of Planning.

Preliminary General Street Plan for Denver. The Department, prepared by the Denver Planning Office; City and County of Denver, 1952. 74pp.

In formulating this plan, forecasts were made as to the size of the population for 1970, the areas in which these people would live, where they would go for various purposes (work, play, shopping, etc.) and how they would get there. Based on these forecasts, traffic volumes of 1970 were estimated, and streets designed to carry this estimated traffic.

Eugene, Oregon. State Highway Department. Traffic Engineering Division.

Eugene Parking Study. The State Highway Commission, in cooperation with the City of Eugene and the U. S. Bureau of Public Roads, 1952. 154pp. (Technical Report No. 52-4).

This report deals with the available parking space for motor vehicles in Eugene and the manner in which the existent space was used for an average weekday (Monday-Friday, incl.) during October, 1951.

Eugene-Springfield, Oregon. State Highway Department. Traffic Engineering Division.

Eugene-Springfield Area Origin-Destination Study and Route Analysis. The State Highway Commission, in cooperation with Lane County, City of Eugene, City of Springfield, U. S. Bureau of Public Roads, 1952. 196pp. (Technical Report No. 52-3).

This report covers the origin-destination and route analysis phases of the Eugene-Springfield metropolitan area traffic survey.

Florida. State Road Department.

Report On a Study of Florida Highways for the State Road Department of Florida. The Department. 1952. 112pp.

Prepared by Parsons, Brinckerhoff, Hall and MacDonald to determine the State's existing and anticipated highway needs. It contains a recommended method of achieving a practicable program of improvements for the coming twenty-year period.

Great Britain. Road Research Laboratory.

Report of the Road Research Board with the Report of the Director of Road Research. London: Her Majesty's Stationery Office, 1952. 86pp.

The publication reviews the Road Research Board's work during 1951. Contains: Safety; Traffic; Economics; Materials and methods of construction. (Economy in road construction; pavement design, soils and aggregates; concrete, bituminous materials and other investigations).

Greenfield, Margaret

Juvenile Traffic Offenders and Court Jurisdiction. University of California, Berkeley, Bureau of Public Administration. 36pp., mimeo. (1951 Legislative Problems, Number 10).

The problem concerns the transfer of authority over juvenile traffic offenders from the juvenile courts to the regular traffic courts and has been under consideration by the 1951 legislature.

Highway Research Board.

Highway Sufficiency Ratings. The Board. 1952. 69pp., mimeo. (Bulletin 53).

Contains: Sufficiency ratings as an administrative tool, O. L. Kipp; Arizona's experience with sufficiency ratings, William E. Willey; General comments on sufficiency-rating procedures, John A. Swanson; Possible areas of improvement in rating procedures, P. R. Staffeld; Considerations in rating urban streets, Curtis J. Hooper; Graphical presentation procedures, James O. Granum; Elemental versus composite ratings, M. Earl Campbell; Use of sufficiency ratings in long-range planning, Roy E. Jorgensen; Relation of sufficiency ratings; tolerable standards, and priorities, C. E. Fritts; Appendix on procedures.

Highway Research Board.

Land Acquisition and Control of Adjacent Area. The Board, 1952. 56pp., pamphlet. (Bulletin No. 55).

A yearly publication of reports of significant events in the field: highway land acquisition, control of access, roadside betterment, legal and administrative aspects of parking, and related matters.

Highway Research Board.

Load Capacity of Roads Affected by Frost. The Board. 1952. 17pp., pamphlet. (Bulletin No. 54).

The objective of the project is to determine the percentage loss of strength that may occur in highways subjected to freezing and thawing action.

Highway Research Board.

Night Visibility. The Board, 1952. 77pp., pamphlet. (Bulletin No. 56).

Contents: Determination of windshield levels requisite for driving visibility, Warren M. Heath and Dan M. Fitch; Effect of exposure to sunlight on night driving visibility, R. H. Peckham; Effect of pattern distribution on perception of a relative motion in low levels of illumination, Harold I. Stalder and A. R. Lauer; Vision at levels of night road illumination, Oscar W. Richards; Spherical Lens optics applied to retrodirective reflection, James H. Havens and Allie C. Peed, Jr.

Highway Research Board.

Pavement-Marking Materials. The Board, presented at the thirty-first annual meeting, January, 1952. 128pp. (Bulletin No. 57).

Contains: Traffic Paint Development in California; Physical Properties of traffic paints; Review of Traffic-paint research; Principles of glass-bead reflectorization; Thermoplastic striping compounds; Traffic paint tests; Road tests of traffic paints; Application of plain and beaded traffic paints; Field studies of traffic paints; Performance test; Pavement marking materials; and an annotated bibliography.

Houston, Texas. State Highway Department. Highway Planning Survey.

Gulf Freeway Traffic Survey, Houston, Texas. The Department, in cooperation with the U. S. Bureau of Public Roads. 1951. 65pp.

Traffic volume and origin and destination of traffic using the Freeway are considered in the first section. The principles governing the attraction of traffic to the Freeway are covered in the second section.

Houston, Texas. State Highway Department. Highway Planning Survey.

A Study of Land Values and Land Use Along the Gulf Freeway in the City of Houston, Texas. The Department, 1951. Prepared by L. V. Norris Engineering Company, Houston. 190pp.

The study was based upon the analysis of approximately twenty-three hundred bona fide sales of property, and includes surveys showing land use and land values.

Kreml, Franklin M.

Traffic Law Enforcement. Society of Automotive Engineers. 1952. 32pp., pamphlet. (Sixth SAE Beecroft Memorial Lecture).

Discussion of laws, police, courts, and driver licensing, as components of the enforcement program.

(Continued on page 256)

Secretary's Column

Probably most, if not all, of the membership is aware that the traffic engineering profession has received the largest amount of nationwide publicity it has ever had during the past four months. First came the December 30th issue of *Look* magazine's article on Connecticut's Merritt Parkway. (Former U. S. Senator Schuyler Merritt, one of the Parkway's earliest proponents and after whom it is named, recently died at the age of 100). Then in February one of the TV's Omnibus program included a five-minute episode devoted to the profession. Also the February issue of *Architectural Forum* carried an eight-page spread on the Urban Traffic Roundtable, upon which I commented last month.

The March 16th issue of *Time* devoted a column of its National Affairs Department to Henry Barnes and his Denver traffic program. We thought it a grand writeup for Hank. Of course the fact that the Institute received mention has nothing to do with our feeling.

Life featured the profession in a seven-page article "The Battle of the City Streets" by John Stanton in its March 30th issue. Mr. Stanton wrote thumbnail case histories of the ministrations of seven ITEers; Dan Faustman, John Hanna, George Howie, Al Malo, Dwight Myers, Harry Neal, and Tom Willier. Although he admires the accomplishments to date in spite of heavy odds, Mr. Stanton seems to suspect that the traffic engineers are in for an eventual licking. I very much doubt that many in the profession will share his pessimism, as most of us believe that the automobile is here to stay, and so long as there are motor vehicles the traffic engineer will be in the forefront devising better ways and means of moving them. At any rate, the article is fine and well worth your reading, in case you haven't already seen it.

By the time this reaches you another fine article on traffic engineering accomplishments by Ben Merson will have appeared in Colliers Magazine. It is tentatively scheduled for the April 18th issue and although I haven't yet had the opportunity of seeing the finished product I'm sure it will be well done because I know something of the amount of research a high caliber writer has extended to the subject.

Even our magazine was the recipient of a plug recently, when the Providence (Rhode Island) Journal gave one-half of its March 31st editorial page to a condensation of Joseph Barnett's paper printed in the February *Traffic Engineering* "Expressway in Relieving Urban Traffic Congestion", which the Journal captioned "Cutting Traffic Tangles". We appreciate the credit line given the magazine very much.

TIM TODD

Statement of the ownership, management, and circulation required by the Act of Congress of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) of Traffic Engineering published monthly at Plainfield, New Jersey, for April 1, 1953.

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Publisher — Interstate Printing Corporation, Plainfield, N. J.

Editor—M. Mansfield Todd, Strathcona Hall, New Haven 11, Conn.

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Sworn to and subscribed before me this 1st day of April, 1953.

WILLIAM L. CHRISTIAN,
[Seal] Notary Public of N. J.
(My commission expires April 1, 1958)

ON THE SHELF

(Continued from page 255)

Oregon. State Highway Department. Traffic Engineering Division. Planning Survey Section.

1952 Foreign Passenger Car Survey. The Department, prepared in cooperation with the U. S. Bureau of Public Roads and Oregon State Highway Travel-Information Department, 1952. 19pp., mimeo.

A survey conducted to obtain the amount of money spent by tourists in Oregon during 1952. In addition to this there is recorded other statistical information relative to tourist and foreign car travel.

Pittsburgh, Pennsylvania. Department of Highways. Planning and Traffic Division.

Pittsburgh North Side Traffic Survey. The Department, in cooperation with the U. S. Bureau of Public Roads, 1952. Variously paged.

Provides data for use in the location and design of the proposed Ohio River Boulevard extension from a new site of the Manchester Bridge at the Point Park to the intersection of Marshall Avenue and the Ohio River Boulevard.

Topeka, Kansas. State Highway Commission. Department of Highway Planning.

A Study and Analysis of the Parking Problem in Topeka, Kansas. (Cover reads: So . . . You Want to Park!) The Commission, in cooperation with the U. S. Bureau of Public Roads, 1952. 87pp., processed.

A comprehensive survey and study of the Topeka parking situation.

U. S. Federal Civil Defense Administration.

Clearance and Restoration of Streets and Highways in Civil Defense Emergencies. The Administration, 1952. 39pp., mimeo. (Technical Manual TM-13-2).

The manual serves as an aid to civil defense authorities at State and local levels in the development of plans for restoring highway facilities to a minimum serviceable condition in event of enemy attack.

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